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MEDIUM-TERM PLAN

Revised draft medium-term plan, 1992-1997

Submitted by the Director-General

Summary

Pursuant to General Conference resolution GC.3/Res.21 and Board decision IDB.7/Dec.14, the present document provides a revision of the draft medium-term plan, 1992-1997 (IDB.7/7-PBC.6/8 and Corr.1), taking into account the views expressed during the third session of the General Conference and the seventh session of the Board.

After providing a summary description of the world economic outlook up to the mid-1990s, the first chapter of the document identifies the major challenges facing the Organization in terms of target problem areas or themes. The five major target problem areas are: (i) human resource development; (ii) development and transfer of technology; (iii) industrial rehabilitation; (iv) small- and medium-scale industry development; and (v) environment and energy. The three themes or elements common to industrial development are: (i) mobilization of financial resources for industrial development; (ii) economic co-operation among developing countries; and (iii) integration of women in industrial development. The document also focuses on the need to differentiate between the specific requirements of each region. An indication is given in each case of the Organization's response together with the identification of the programmes and subprogrammes involved.

The second chapter of the document lays down a framework for translating the programme objectives and thrust of the operational strategies into terms that can be more readily reflected in the biennial programmes and budgets. This is achieved by identifying the major programme instruments of the Organization which are more closely aligned to the organizational structure of the Organization and are reflected in the programmes and subprogrammes of the programme and budgets as contained in document IDB.8/8-PBC.7/10. The chapter is structured along the lines of six major programme instruments: (i) studies and research; (ii) policy fora; (iii) industrial promotion; (iv) information services; (v) technical co-operation; and (vi) inter-agency co-ordination.

A third chapter deals separately with UNIDO policy management and programme support.

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Preface

i. The draft medium-term plan for 1992-1997 has been revised and updated pursuant to General Conference resolution GC.3/Res.21 and Board decision IDB.7/Dec.14 and takes into account the views expressed during the third session of the General Conference and the seventh session of the Board.

ii. In keeping with the General Conference resolution, in particular paragraph 4 thereof, due consideration has been given to the comprehensive policy framework of human resource development and the environmental programme resubmitted to the Board at its seventh session. The improvement of regional co-operation in the field of development and transfer of technology as well as the effective co-operation between regional and subregional institutions in the small- and medium-scale industry sector have also been reflected in the draft plan. The identification of regional and subregional industrial development projects and their sources of financing has also been included, as have the objective definition and identification of possible effective alternatives for regional and subregional co-operation. The programme instruments also specifically include pilot and demonstration plants in conformity with Article 2 (m) of the Constitution.

iii. In keeping with the Board decision, in particular paragraph (j), every care has been taken to ensure that the five priority problem areas, the three elements common to industrial development and the six programme instruments of UNIDO already approved for the medium-term plan, 1990-1995 (GC.3/17) form part of the draft plan. Similarly, the activities described in the draft plan derive from the functions defined in the Constitution and the legislative mandates of UNIDO as stated in General Conference decision GC.2/Dec.23(b)(iii).

iv. At the same time, the draft plan clearly indicates the programmes and subprogrammes carrying out the activities under each of the priority areas as well as the programmes and subprogrammes that constitute the six programme instruments. This has been done by analysing the medium-term plan response in each priority area and identifying the most appropriate organizational approach. By way of example, in respect of industrial rehabilitation, the plan identifies three distinct levels of treatment: (i) at the level of specific enterprises and plants; (ii) at the level of specific industrial subsectors; and (iii) at the industrial policy level. This will involve studies, technical assistance, consultations and investment promotion. Expressed in terms of the organizational programmes this will involve Industrial Policy and Perspectives, Area Programmes, Industrial Investment, the System of Consultations and Industrial Institutions and Services.

v. The indication of the programmes/subprogrammes involved provides a link with the programme and budgets for 1992-1993 (document IDB.8/8-PBC.7/10) which, as befits a budget document, gives the clear and more defined allocation of tasks and the estimated resource requirements requested in the Board decision.

vi. It should be added, however, that implementation of both the medium-term plan and the programme budget is contingent upon two major factors: the provision of adequate financial resources for technical co-operation and the timely payment of assessed contributions. As past experience has shown, programme delivery has been all too often constrained by inadequate financial resources and by the delayed and unpredictable payment of assessed contributions. Another constraint is the imposition of a reserve, equivalent to 15 per cent of the total biennial appropriations, pending receipt from Member States of their assessed contributions. If UNIDO is to provide an effective response to the challenge of the 1990s, it is imperative that it be assured a full and stable flow of funds.

INTRODUCTION: THE WORLD OUTLOOK UP TO THE MID-1990s

Basic features of the 1980s

The economic uncertainties of the 1980s,* ...

1. The 1980s were a period of uncertainty, instability and difficult adjustment for the world economy. World economic growth and the average increase in per capita incomes were the lowest in three decades, with the developing countries bearing the brunt of decline in growth. Developing countries were especially vulnerable to the multiple external shocks that occurred towards the end of the 1970s and the beginning of the 1980s: falling commodity prices and the consequent worsening of the terms of trade for exporters of primary products; a steep rise in the price of oil and its subsequent fall in 1985; the recession of 1980-1982 in the developed countries followed by sluggish growth and increasing protectionist measures; volatility in exchange rates and in international financial markets; and the increases in real effective interest rates that have invalidated the assumptions under which large external debts had been contracted in earlier years. It is particularly disquieting to observe that the external debt of the developing countries stood at a staggering figure of over one trillion dollars at the end of the decade. The international flow of credit and capital, so abundant in the 1970s, was drastically reduced.

... and the resultant slow industrial growth in the developing countries ...

2. Amidst these turbulent changes in the global economy, the rate of growth of industrial output in the developing countries (excluding China) as a whole started sliding down after a peak of 8.4 per cent in 1976 to 5.0 per cent in 1980, plummeting further to 1.5 per cent in 1982. After recovering in 1984, the rate of growth dropped again to 4.0 per cent in 1985 following the economic downturn in the developed countries. It rebounded back to 6.3 per cent in 1986 and fell back to 5.0 per cent in 1987 and to 3.8 per cent in 1989. UNIDO estimates that the share of the developing countries in the world total manufacturing value-added measured in 1980 prices increased from 11.6 per cent in 1975 (the base year for the Lima target) to 13.8 per cent in 1990. This slow progress foreshadows the difficulty of attaining the target of a 25 per cent share set for the year 2000.

... coupled with a slowdown in trade and the reversal of net resource flows threaten the industrialization prospects of the developing countries.

3. Both the slowdown in the growth of world trade and the reversal of the net resource flow between the developed and developing countries weaken the foundation for long-term growth and pose an immediate threat to the industrialization prospects of the developing countries. In fact, between 1980 and 1986, the developing countries as a whole had to curtail the value of their combined imports of goods by as much as $162 billion, although the countries in East and South-East Asia as well as South Asia managed to escape from this drastic decrease. Deregulation, introduced as a measure to revitalize the economies of industrialized countries, has had various effects. It has made their industries more mobile, and many firms have relocated production away from their original base, sub-contracting abroad and replacing products by cheaper imports. However, only a few developing countries with relatively mature industries - some of the Latin American and the East and South-East Asian countries - have been able to benefit from this globalized production network.

The present disequilibrium underscores the need for structural adjustment and improved industrial performance ...

4. Most developing countries that did not benefit from the globalization of industry have been overwhelmed by their increasingly severe external imbalances. In the process of structural adjustment, trade liberalization, privatization and deregulation have become increasingly important elements. Deregulation essentially builds up pressure in favour of rationalization and greater economic efficiency in a more competitive market environment. However, it has become increasingly clear that improvement in industrial performance also requires concerted rehabilitation and investment measures to raise productivity, as well as attempts to reflate the world economy.

... which varies greatly in the developing countries, ...

5. The recent industrial record of the developing countries as a whole has been mixed. To a large extent, it reflects the impressive performance of certain developing countries that have already built up a relatively well-trained and skilled workforce. The situation in many other developing countries is radically different since the outward oriented strategy so successfully applied by the newly industrializing countries is an option not open to them, given their structural constraints and the limited growth of developed country markets.

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* The marginal notes are to assist the reader but are inevitably much less precise than the text itself.

... particularly in the least developed countries ...

6. In the least developed countries, the share of manufacturing value-added in GDP has been declining as a direct outcome of the shrinking international markets and the worsening terms of trade for those countries' traditional exports. These problems take on a critical dimension in Africa where no less than 29 least developed countries are struggling for economic survival, rather than for economic consolidation and growth. The current increase in population, some 3 per cent per year, is outstripping economic growth. The production of food has suffered from natural disasters, notably drought, and has failed to keep pace with population growth, thus forcing many countries in the region to rely on ever-increasing volumes of basic commodity imports.

... and Africa where a process of de-industrialization has set in.

7. The debilitating effects on Africa of the international recession, the collapse of commodity prices, the debt burden and related debt-servicing obligations are illustrated by the fact that in the past few years 25 countries in the region have been forced to undertake debt reschedulings, involving renegotiation of the original loan terms. The debt burden has also drastically exposed the fragility of the region's industrial structure - especially in those countries and industrial sectors that depend heavily on imported inputs. In many cases, industry has become a net user of national resources rather than a generator of surpluses. Capacity utilization of 30 per cent or even less is a common feature of industry in many African countries. Indeed, in some countries, a process of de-industrialization would seem to have already begun, thus making the industrial development of the region an even greater challenge.

Other concerns include the impact of industry on the environment, the uncertain energy balance ...

8. Parallel to the international concern over economic adjustment problems, a growing emphasis on broader, long-term, and in some cases non-economic, objectives of international development can be observed. Foremost among these has been the concern over the impact of new technologies on industry, as well as the impact of both on the environment and natural resource base, as emphasized in General Assembly resolutions 42/184, 42/186, 42/187, 43/53, 43/196, and 44/226-229. A great deal of uncertainty also persists about the future world energy balance. This uncertainty has yet to be overcome through greater prudence in the management of energy markets and sustained technological progress in energy conservation and substitution.

... and the development potential of disarmament.

9. Of the dangers that face the global community, nuclear war is undoubtedly the gravest. The current discernible shift towards a reduction in nuclear and conventional weaponry bears great promise. Defence expenditure is currently one of the most import-intensive activities in the developing countries. It has a far-reaching negative effect on the potential for development. However, in the light of the unprecedented political and economic reforms sweeping through Eastern Europe, there are very real prospects that a significant portion of the $2.5 billion spent each day throughout the world in 1985 on military applications can be used to ensure national, regional and even global security in a broad range of fields ranging from food to health and the environment.

Prospects for the medium-term plan period

In the medium term, the prospects of slow growth and possible recession remain.

10. The slow rate of global economic growth has been insufficient to accommodate the long overdue structural adjustment of the world economy. Indeed, it is difficult to envisage when the world will be able to overcome the major divergences between the policies of different countries. Many signs still point to a protracted period of sluggish world growth. Furthermore, increasing variations in the performance of the different regions and subregions will merely compound the fragmentation of the world economy.

Although certain modest improvements might be achieved, world economic performance will most probably remain poor.

11. Some assumptions can be made in respect of key aspects of the world economy. The United States might succeed in reducing its budgetary and balance-of-payments deficits and manage to keep real interest rates down to 3 or 4 per cent; trade friction among the OECD countries might not be any worse than in recent years; international oil prices might increase slightly; major debtor countries might continue to make a special effort to correct their external imbalances; and official development assistance (ODA) flows might for the most part maintain the trends observed in the current decade. A baseline scenario built on these modest assumptions would point to a continuing poor world economic performance. The developed market economies would be likely to prolong their moderate real growth of some 3 per cent per year, just exceeding the average rate of 2.5 per cent maintained throughout the current decade. As a consequence, the developing economies (excluding China) would probably attain an average real growth of 3.5-3.7 per cent per year, substantially lower than the average of 5.7 per cent recorded in the 1970s.

Developments in Eastern Europe will have a global impact, ...

12. It is too early to assess with any degree of confidence the global impact of the political and economic changes occurring in Eastern Europe. Given the appreciable human and physical capital of the countries in that region, it is expected that regional economic growth in the latter half of the next decade will be higher than anticipated in the medium-term plan 1990-1995. 1/ This

transformation could lend a new growth impulse to the countries of Western Europe whose growth rates have been low in recent years. This in turn may have positive consequences for the growth of Western Europe's trading partners, including many developing countries. As the countries of Eastern Europe extend and diversify their trading linkages with developing countries, these new trading partners will benefit directly from renewed growth in Eastern Europe. In the short term, however, the impact of these changes on investment, financial flows and ODA may be adverse. International surpluses of investible resources are finite, be they available from government revenue or the private sector. All the signals indicate a significant upturn in investment by the major OECD countries in infrastructure and industry in Eastern Europe, and a European Bank for Reconstruction and Development has been set up. All this points to a diversion of resources away from low-income developing countries. It is hoped, however, that this diversion will be temporary.

... as will the creation of a single European market in 1992.

13. The move towards a single European market in 1992, initiated by members of the European Community, continues to grow. Estimates of the future positive economic impact of this development project a growth rate increase of the order of 2 per cent of GNP within the Community over and above the normal growth of approximately 2.5 per cent. Growth increases of this order should provide an eventual stimulus to trading partners, including those from developing countries. However, the economic character of Europe 1992 is still in the making: it is not known with certainty which countries will eventually form the single market of 1992. Similar trends are to be observed in the free trade agreement concluded between Canada and the United States, in the initiation of discussions on a similar arrangement between Mexico and the United States and in the Asia-Pacific Economic Co-operation Council. The crucial issue for developing countries is that, on balance, the trend towards integrated markets should lead to more trade creation than trade diversion, although the impact will be geographically uneven and competition between countries, both developed and developing, will increase. This trend towards an integrated global industrial economy is leading to even fiercer competition where only the fittest enterprises will survive. Moreover, this intensified global competition could widen interregional and inter-country disparities in income, industrial capacity and technology in the next decade, thus posing a major challenge to the international community.

The impact of the Gulf war.

14. The Gulf conflict was a major event whose consequences will be felt throughout the global economy well into the 1990s. Over the next ten years, trade surpluses derived from oil exports which might have been invested elsewhere in the global economy will be required for reconstructing the infrastructure and oil industry of Kuwait and Iraq. The reconstruction needs of the Islamic Republic of Iran are also known to be significant. All these regional investment needs will tend to reduce global surpluses and lead to a tightening of investment conditions, particularly in developing countries. One consequence of the Gulf War is that oil prices are expected to stabilize at around $20 per barrel in real terms for an extended period of time.

The baseline scenario under consideration is by no means an acceptable target, yet the situation could be worse.

15. It should be noted that the overall growth of 3.5-3.7 per cent per annum projected for the developing countries through the mid-1990s implies that the gap in per capita incomes between the developed and developing world would widen, and that the poorest areas of the world might be faced with an absolute decline in per capita income levels. In the case of sub-Saharan Africa and the least developed countries, an increase in real incomes by some 2.5-2.8 per cent would imply zero or even negative per capita growth. In all likelihood, the debt/GNP ratio in the least developed countries would continue to rise, edging closer to 75 per cent by 1995. The Latin American countries as a whole might manage to reduce their debt/GDP ratio to some 35 per cent by the mid-1990s. This, however, would only come about if their own efforts at economic and industrial adjustment do not slacken and their joint efforts with the international financial community at debt reform buy enough time for normal debt-servicing to be restored. Indeed towards the end of 1990, some moves towards debt reduction were to be seen. In March 1991, Chile returned to the international markets on a voluntary basis; Brazil was able to purchase up to $7 billion of its debt, reportedly at a discount of close to 70 per cent; Argentina engaged in major debt for equity swaps and is contemplating others; and Poland successfully obtained write-offs on its debt to Western Governments of between 50 and 70 per cent of the amounts outstanding. Progress was also achieved by such other countries as Mexico, the Philippines and Costa Rica. This notwithstanding, the baseline scenario constitutes a somewhat less than acceptable target. It is not inconceivable that the baseline assumptions described above might fail to materialize; the situation could be even worse.

With prospects of only slight improvement in the relative distribution of world productive activity, the developing country share will fall far short of the Lima target.

16. This baseline scenario implies only a slight improvement in the relative distribution of world industrial production. While UNIDO is still in the process of elaborating the implications of the above scenario for the industrial sector, a preliminary estimate suggests that the growth of industry might be just about 2.5 per cent in the developed market economies as a whole, about 4 per cent in Eastern Europe, and some 4.5 per cent for all developing countries. In this case, the developing countries' share in world industrial output, which by 1990 had reached only 13.8 per cent, would continue to rise only slowly so that their share by the year 2000 might be no more than 15.7 per cent - markedly less than the target set in the Lima Declaration of 1975.

Complex factors contribute to the uncertainties of development.

17. Complex factors have contributed to the uncertainty of the developing countries' position in the shifting international division of labour in recent years. Most of those factors are likely to persist in the years to come. In all probability, the external debt problem will continue to affect adversely the flow of investment resources to most developing countries. Primary commodity prices will be unlikely to rise to a level that would generate proceeds enough to provide major investible resources for industry. Many developing countries will have to continue their endeavours to redress external disequilibria under aggravated domestic socio-economic conditions. There might be severe limitations on the possibility of relying further on markets in the North for widening their industrial base through cheap labour-based, standardized export products. The dramatic rate of technological change in developed countries will pose a continual challenge to the industrialization efforts of developing countries and to the latters' industrial and economic relations with the former. The rapid shifts in the global structure of both industrial production and trade will further add to the vulnerability of industry in technologically underequipped developing countries. These factors will continue to impinge upon the ability of many developing countries to pursue their long-term development goals.

Scope of the UNIDO medium-term plan

The need for innovative approaches to industrial recovery.

18. In the face of the formidable challenge posed by the continued instability and uncertainty of the world industrial economy, the efforts to seek concrete, realistic solutions to the complex problems of industrial development should not slacken. The world should be prepared to seize new opportunities for industrial recovery and expansion as the basic adjustment efforts of the 1980s take effect. The next decade demands more innovative approaches to international co-operation so as to bring about a broader and more resilient industrial base in the developing countries that can withstand recurrent turbulences in the international economic environment and achieve greater harmony with their basic resource endowments.

The plan serves as a basic policy framework for tackling the major challenges.

19. This medium-term plan serves as a basic policy framework for the Organization's contribution to the solution of problems within its mandate. The primary objective of the Organization is to accelerate industrial development in the developing countries by promoting co-operation on global, regional and national, as well as on sectoral levels. This plan suggests how the functions of UNIDO should be co-ordinated or improved and its operational instruments better utilized to tackle the major challenges in the years to come. Industrialization is a long-term process of structural transformation. Underpinning this medium-term plan is the commitment of UNIDO to promote that long-term process by focusing its assistance on the most important problem areas and on the neediest members of the world community, and stimulating concerted efforts to the same effect throughout the world.

The plan first establishes a set of thematic programme concepts ...

20. In chapter I, the major challenges facing the Organization are presented in terms of target problem areas or themes. The thrust of the strategy of UNIDO is described briefly in relation to each target problem area, as well as in relation to count y or regional needs. This chapter thus establishes a set of thematic programme concepts, on the basis of which UNIDO should adjust its work programme in response to priority issues that reflect changing global conditions.

... which are juxtaposed with policy directives in terms of major programme instruments.

21. In chapter II, an attempt is made to incorporate those thematic considerations into the objectives to be pursued and the strategies to be adopted by the major categories of programme instrument that the Organization can mobilize. This has been done because the Organization's biennial work programme may continue to be aligned, primarily for budgetary purposes, by subprogrammes that reflect the administrative structure of the Secretariat, rather than the thematic priorities. The policy directives given to major programme instruments in chapter II are consistent with the setting of thematic priorities described in chapter I. This dual approach will ensure that when implemented in biennial terms, the plan builds on current activities, maintains the continuity of the Organization's functions as stipulated by its Constitution and, at the same time, permits the development of new activities and improved organization of work in keeping with the new priorities set in face of evolving problems.

The medium-term plan is a rolling plan subject to biennial review.

22. Programming activities according to thematic priorities calls for a continually updated perspective across countries and sectors so that limited co-operation resources can be allocated on a duly selective basis. While the target problem areas underlying thematic priorities are set in fairly broad terms, certain aspects thereof may change over time with changing national and international conditions. Thus, the medium-term plan has been conceived as a rolling plan, subject to review from one biennium to the next, as proposed in GC.2/Dec.23, subparagraph (b). This particular version for 1992-1997 is a revision prepared in compliance with General Conference resolution GC.3/Res.21, paragraph 4, and Board decision IDB.7/Dec.14 and constitutes the overall policy framework for the programme and budgets for 1992-1993.

CHAPTER I. THE MAJOR CHALLENGES OF THE 1990s AND THE RESPONSE OF UNIDO

Specific problem areas that call for innovative approaches

Target problem areas identified by the open-ended working group on Article 2 (c) of the UNIDO Constitution.

23. As defined in the Constitution of UNIDO, the primary objective of the Organization shall be the promotion and acceleration of industrial development in the developing countries. It shall also promote industrial development and co-operation on global, regional and national, as well as on sectoral levels. In the light of the problems which have persisted over the past decade and the important challenges to the Organization in the years to come, the third open-ended working group on Article 2 (c) of the UNIDO Constitution (New Concepts and Approaches for Co-operation in Industrial Development), established under General Conference decision GC.2/Dec.13, re-examined within the context of the medium-term plan of UNIDO for the period 1990-1995 a number of target problem areas, in relation to which the Organization should endeavour to adopt a more innovative approach than in the past. The working group reached consensus on according highest priority to: (i) human resource development; (ii) development and transfer of technology; (iii) industrial rehabilitation (including industrial maintenance); and (iv) the development of small- and medium-scale industry.

Subsequent debates pointed to certain other facets that call for priority attention ...

24. The views expressed by Member States in respect of the draft medium-term plan for the period 1990-1995 at the fourth sessions of the Programme and Budget Committee and the Industrial Development Board stressed that when addressing the above-mentioned target problem areas, UNIDO should accord priority in its programmes to the problems of: (v) environment; (vi) energy; and (vii) integration of women in industrial development. Furthermore, it was stressed that when designing co-operation activities, greater attention should be given to expanding opportunities and mechanisms for: (viii) economic co-operation among developing countries; and (ix) mobilization of financial resources for industrial development in developing countries.

...with due consideration being given to the the least developed countries, and special regional requirements.

25. As for the recipients of UNIDO technical assistance, the least developed countries should continue to receive highest priority consideration. Moreover, all scenarios for the 1990s point to the need to design a special regional programme within the framework of the second IDDA that meets the unique requirements of Africa. Also, given the severe economic difficulties that are likely to persist well into the 1990s, a special programme has been drawn up for the industrial recovery of Latin America and the Caribbean, as well as special programmes for the industrial development of the Arab and the Asia and Pacific regions, based on the specific needs of the two regions.

Programmatic themes re-structured in three broad categories.

26. In the following sections, the challenges confronting the Organization are described in relation to the major problem areas mentioned above. In each instance, an indication is given of the objectives and thrust of the strategy that UNIDO will adopt in response. Priorities are set which can serve as a basis for overall resource allocation, and distinct thematic foci are recommended for enhancing organizational effectiveness. The first section treats those five major target problem areas that are to be the subject of discrete thematic programmes:

(1) Human resource development
(2) Development and transfer of technology
(3) Industrial rehabilitation
(4) Small- and medium-scale industry development
(5) Environment and energy

The second section focuses on three elements common to industrial development, including the five target problem areas above, which should be addressed by all UNIDO activities. The three elements are:

(6) Mobilization of financial resources for industrial development
(7) Economic co-operation among developing countries
(8) Integration of women in industrial development

Finally, the third section deals with the need to differentiate between specific requirements of each region.

Five priority problem areas and the strategic thrust of the corresponding thematic programmes

1. Human resource development

The challenge 2/

The "human dimensions" of development demand a multifaceted approach.

27. Resolution 1987/81 adopted by the United Nations Economic and Social Council aimed at reviving awareness of the fact that people are both the objective of and essential means to development. Similarly, in the context of preparing a new International Development Strategy for the Fourth Development Decade (1990s), human resource development is emerging as a priority theme, with its broad connotation for the "human dimensions" of development. Human resource development must be seen as both a precondition for and a consequence of industrial development. From the point of view of UNIDO, this calls for attention not only to the issues of education and training systems, but also to a whole range of basic strategic issues of industrialization. These include an appropriate blending of less advanced and newly emerging advanced technologies, and the whole complex of inter-sectoral linkages. Careful consideration should be given to all those basic strategic issues in upgrading education and training systems and adjusting them to evolving employment opportunities. Particularly important in this context is that the developing countries face growing challenges as a result of rapid advances in technology, changes in markets and market access, international price structures and other trends and policy factors that affect international comparative advantage.

Education and training for the industrial sector is a complex task with many dimensions.

28. The developing countries need to adopt a systematic approach to tackling the grave shortcomings that occur at different levels. They also need to adjust and upgrade continuously their industrial production structures and accommodate the shifting operational requirements of their industries. This requires action at different levels: an overall human resource development strategy, industry-specific human resource development policies, institutional training systems and enterprise-level training, with appropriate provision for the full integration of women. In order to realize the effects of these strategies, policies and institutions, the training of trainers and industrial managers is of paramount importance, as are aggressive human resource development schemes within industry and appropriate fiscal and institutional support. Furthermore, institutional training must be linked to technological research and development, as well as consultancy and extension services.

Objective

The primary objective of the UNIDO human resource development programme.

29. The primary objective of the human resource development activities of UNIDO is to build up in developing countries coherent and sustainable systems for upgrading local technological skills and managerial and entrepreneurial capabilities and integrating them into the industrial development process, in accordance with the national development strategies and priority plans of those countries. Within that overall objective, the activities shall aim at developing: national human resource development strategy and planning; along with the corresponding policy measures and institutional training systems; institutional programmes specialized in specific subsectors or functions; enterprise-level training; and training of trainers.

The response

The primary target groups.

30. This broad objective is addressed through various programmes which are designed to tackle the requirements of specific countries and regions so that UNIDO can act most effectively as a catalyst and stimulator of action and change. The relevant target groups include: (a) policy-makers at the national planning level; (b) public programme managers and industrial and professional associations; (c) private-sector enterprises; (d) technical and financial institutions; and (e) international technical co-operation agencies and institutions. While the programme will focus on "training", the target groups and institutions will be broad including not only those engaged in training, but also those engaged in technological research and extension services, with a view to effecting an integrated approach to human resource development and the development and transfer of technology.

A comprehensive UNIDO policy framework for human resource development.

31. The thrust of the UNIDO response along the lines described below is based on the comprehensive policy framework for UNIDO operations in the domain of development and transfer of technology and development of human resources (document GC.3/8 and IDB.5/37) which the General Conference at its third session in resolution GC.3/Res.21, para. 4(a) requested the Director-General to take into consideration when revising the medium-term plan. The framework was prepared in accordance with resolution GC.2/Res.4 adopted by the General Conference at its second session and decision IDB.4/Dec.21 adopted by the Industrial Development Board at its fourth session. At its fifth session, the

Board took note with appreciation of this policy framework and requested the Director-General to intensify co-operation with other competent organizations in the United Nations on the basis of the policy framework.

The general areas of emphasis.

32. Human resource development will be linked with support to the development and transfer of technology. An integral component will be the development of organizational strategies, policies and methodologies for human resource development. The direct training services provided by UNIDO in various specialized fields will be oriented primarily towards those participants from developing countries who are, or will be, in a position to train many others in their home countries. Particular weight will be attached to the development of new institutional training or "centres of excellence" programmes at national, subregional and regional levels in various specialized fields. UNIDO-sponsored policy-oriented seminars and problem-oriented training workshops will continue to focus on such fields of critical importance as repair and maintenance, quality assurance and control, investment project preparation, appraisal and promotion, enterprise and factory management, contract negotiation for the transfer and acquisition of technology, and small industry extension services, as well as energy conservation and substitution, industrial safety and environmental protection.

The basic strategy is to make human resource development a major feature of all UNIDO activities.

33. Human resource development will continue to be a major feature of all UNIDO activities. Emphasis will be placed on research for policy formulation and implementation purposes. This research will focus, among others, on ways and means of stimulating the dynamic evolution of the links between education, R&D, training and industry at national and regional levels. Co-operation in long-term institution-building projects will incorporate, wherever desirable, a policy research component so as to ensure maximum feedback to national human resource development policies and the design of training systems. Greater efforts will be made to ensure that every technical co-operation project has a maximum impact on the host country in terms of human resource development. Similarly, the industrial promotion activities of UNIDO, as well as its information services will give due attention to their training effects. They will identify, test and demonstrate effective approaches and mechanisms that developing country Governments can choose when developing and implementing their own promotional policy instruments for industrial and technological development.

Particular areas of emphasis.

34. Particular attention will be paid to the need for a balanced setting of priorities with respect to: (a) efficiency and equity (with emphasis on progressive participation of small entrepreneurs in the developmental decision-making process); (b) long-term targets (application of science and technology for industrial development) and short-term needs (industrial restructuring and rehabilitation); (c) the promotion of a judicious blending of public and private initiatives (with appropriate schemes for sharing human resource development costs); and (d) an appropriate blending of advanced and conventional technologies, in accordance with the overall development strategies and the expressed priority plans of individual developing countries.

Focus on private-sector enterprises.

35. Human resource development activities within enterprises will concentrate primarily on those areas for which financial and technical support is least available commercially. Direct assistance rendered by UNIDO to individual enterprises on a stopgap basis should be seen as being a means of exploring, testing and demonstrating effective approaches and mechanisms for public policy to stimulate private-sector initiatives in the developing countries themselves.

Complementarity, diversification and interlinkage.

36. Especially in relatively advanced and specialized technological fields, emphasis will be placed on the enhancement of complementarity, diversification and interlinkage of training programmes and facilities among neighbouring developing countries that offer opportunities for industrial co-operation.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

37. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 323 Programme Development Support; 331 Africa; 332 Arab Countries; 333 Asia and the Pacific; 334 Europe, Mediterranean, Global and Interregional; 335 Latin America and the Caribbean; 341 Global Issues and Policy Analysis; 342 Regional and Country Studies; 343 Industrial Statistics and Sectoral Surveys; and 351 Industrial Co-operation and Management Services.

38. Major programme 400 Industrial Promotion, Consultations and Technology: 412 Programme Development; 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; 441 Industrial and Technological Information; 442 Technology Policy, Acquisition and Negotiation; 443 Basic Technologies; 451 Industrial Technology Monitors; 452 Informatics; 453 Biotechnology and Genetic Engineering; and 454 New Technologies.

39. Major programme 500 Industrial Operations: 512 Integrated Industrial Projects; 521 Agro-based Industries; 522 Chemical Industries; 523 Metallurgical Industries; 524 Engineering Industries; 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 533 Industrial Management and Rehabilitation; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

40. Major programme 600 Common Programmes: 610 Regular Programme of Technical Co-operation; and 620 Industrial Development Decade for Africa.

2. Development and transfer of technology

The challenge 3/

A new scenario for the world technology market.

41. Recent trends in the flow of technology to developing countries offer no solace when viewed in terms of such main proxies as direct foreign investment, imports of capital goods and official technical assistance. Major reasons for these adverse trends may be found in the international economic situation in general and in the debt burden of several developing countries. The difficulties associated with these trends are compounded by the increasing protectionism in the form of strategic technology agreements and informal cartels among technology leaders. Enhanced technology acquisition and negotiation capabilities are thus indispensable to achieving the technology mix needed by developing countries. Moreover, in contrast to the trends of the 1960s and 1970s, the new scenario for the coming decade includes continued intensive competition in a shrinking market, looser linkage between technological innovations and investment decisions, and constant change in the process of innovation itself. All this is markedly different from the trend towards specialization and marginal innovations at the individual plant level that featured in earlier decades. Furthermore, organizational structures and management techniques within and between production units are changing as industrial production systems become increasingly globalized.

The development of domestic technological capabilities is a decisive factor in industrial survival.

42. This new situation poses a challenge to developing countries, compelling them to adopt new strategies and policies for survival and development. There must be more endogenously driven technological development efforts. It is no longer sufficient merely to master an imported technology. Experimental learning and innovation become essential ingredients in the technological development process in order to seize the opportunities and reap the benefits offered by the pervasive and flexible features of new technologies. Accelerated obsolescence of skills calls for an ever more serious and firmer commitment to the development of human resources. The earlier preoccupation with simply acquiring or transplanting technology must be replaced by schemes and organizational and management innovations at the domestic level that facilitate and propagate experimental learning and development. Similarly, emphasis must be placed on developing appropriate financial mechanisms to support technological co-operation among enterprises, especially for pre-competitive research.

Firm, long-term technology policies are needed that ensure the gradual establishment of capabilities in the capital goods sector.

43. One prescription for economic success applicable to larger developing countries was the import substitution model based on the production of consumer non-durables produced by light industries up to the stage where they become internationally competitive. However, in order to succeed, the management of industrial and technological change in accordance with that prescription should be supplemented by a long-term, aggressive technology policy based on insight into the development sequences of technological capability and its integration with industrial development. This, in turn, demands that full attention be given to the capital goods sector, the development of which calls for a stepwise approach leading ultimately to the mastery of complex technologies. Technological dynamism, derived from the successful integration of industrial and technological development, must be based on the capital goods manufacturing sector as the agent of change: it requires the creation of a basic technological infrastructure to serve that sector.

Objective

The primary objectives of the UNIDO development and transfer of technology programme.

44. UNIDO activities related to development and transfer of technology will aim: (i) to increase the awareness of the developing countries to the implications of emerging technological changes; (ii) to facilitate their access to technology sources, and to assist them in strengthening their domestic technological capabilities so as to translate new opportunities into action programmes and optimize the exploitation of existing industrial capacities; (iii) to promote broader participation of the developing countries in international technological development; and (iv) to improve regional co-operation, especially through the establishment and improvement in the developing countries of national scientific and technological development institutions oriented towards industrialization.

The response

Five major programme elements, and the key strategies for their application.

45. The United Nations Conference on Science and Technology for Development held at Vienna in 1979 laid out a broad framework which provided a basis for the technology-related activities of UNIDO over the past decade. However, that framework served more as a means of classifying activities than identifying areas of priority for UNIDO. A new programme (outlined in document IDB.3/26) was approved by the General Conference in its resolution GC.2/Res.4, while the Special Advisory Group at its meeting in April 1989 urged that certain elements of that programme should be more sharply focused. The thematic emphasis lies on the integration of industrial and technological development for which several modalities of co-operation are necessary. These are: (i) research and studies on technology, focused on three main areas - (a) the impact of new technologies on socio-economic development, (b) the trends, options and co-operation potentials in specific industrial sectors, and (c) cross-sectoral policies and learning strategies for technological development; (ii) technical co-operation in creating and strengthening basic technical infrastructure for industrial development with particular regard to repair and maintenance, quality assurance and control, product and process engineering, R&D, and related extension services within a clearly structured national policy framework, including measures specifically designed for small- and medium-scale industry development; (iii) promotional activities, consisting of ad hoc advisory services, awareness workshops and project development activities for technological co-operation at national, regional and interregional levels, as well as in the context of enterprise-to-enterprise co-operation; (iv) advisory services through TIES on technology negotiation and acquisition, supplemented by intensified dialogue between technology suppliers and recipients and periodic studies on international technology markets; and (v) technological information services, primarily through the INTIB network.

Technology promotion.

46. For co-operation at the national level, particular emphasis will be placed on establishing linkages between Governments, universities and industry for research, development and applications engineering, with due attention to training, financing and related public support policies, as well as on the problems associated with the industrial utilization of locally available materials. Technology promotion efforts will address the questions of: (a) examining the appropriateness of technology not only from the standpoint of economics, but also in terms of its social, environmental and energy-conserving impact; (b) ensuring maximum impact on the building up of local technological capabilities; and (c) improving mechanisms for joint problem-oriented research and co-operation among developing countries, as well as between developed and developing countries. In all these endeavours, due attention will be paid to the effective integration of women in the industrial development process.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

47. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 323 Programme Development Support; 331 Africa; 332 Arab Countries; 333 Asia and the Pacific; 334 Europe, Mediterranean, Global and Interregional; 335 Latin America and the Caribbean; 341 Global Issues and Policy Analysis; 342 Regional and Country Studies; 343 Industrial Statistics and Sectoral Surveys; and 351 Industrial Co-operation and Management Services.

48. Major programme 400 Industrial Promotion, Consultations and Technology: 412 Programme Development; 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; 441 Industrial and Technological Information; 442 Technology Policy, Acquisition and Negotiation; 443 Basic Technologies; 451 Industrial Technology Monitors; 452 Informatics; 453 Biotechnology and Genetic Engineering; and 454 New Technologies.

49. Major programme 500 Industrial Operations: 511 Interregional Advisers; 512 Integrated Industrial Projects; 521 Agro-based Industries; 522 Chemical Industries; 523 Metallurgical Industries; 524 Engineering Industries; 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

50. Major programme 600 Common Programmes: 620 Industrial Development Decade for Africa.

3. Industrial rehabilitation

The challenge 4/

Industrial rehabilitation is a dominant feature of industrial structural adjustment ...

51. Industrial rehabilitation is an essential element in industrial structural adjustment processes. In many developing countries and in many of their industrial companies, a structural adjustment gap is to be observed. Rehabilitation of industrial enterprises is needed for a number of reasons that relate either to the internal workings of the firms or to changes in the economic environment. The first may include erroneous planning of projects, mismanagement, obsolete technologies, product designs that have failed to keep pace with changing market conditions and other inadequacies inherent in existing industrial and technological systems. Under these circumstances, rehabilitation is practically identical to ensuring the efficient operation of industry.

... that should be approached via a carefully phased policy that addresses problems at both the enterprise and industry levels.

52. The second include the impact of macro-economic changes resulting from external shocks, internal policy distortions, inadequate institutional infrastructure, austerity measures, foreign exchange crises, deteriorating production and performance mainly of import-dependent enterprises, and growing adjustment pressures in developing countries. In this context, prime importance should be given to examining new opportunities for investment in the reorientation and modernization of industries that offer good prospects in the environment created by the fiscal, financial and institutional reforms. It also calls for strengthening basic industrial information systems, as well as supporting technical infrastructures related to such activities as repair and maintenance, quality assurance, management consultancy, market surveys and investment opportunity studies. The opportunity studies should be linked to critical appraisals of the potential of existing industrial facilities. Many developing countries find it necessary to reappraise their past industrialization strategies in the light of the rapidly changing international economic environment. They have to address problems of industrial recovery and expansion through appropriate policy reform. They also have to address the issue of technological change and the growing trend towards globalization of industrial production, as these are likely to affect significantly the future development paths of the developing countries. Current work on this subject clearly indicates that a growing number of countries will require their national efforts being supplemented by international assistance and support at all stages and levels of industrial rehabilitation.

Objective

The primary objective of the UNIDO industrial rehabilitation activities.

53. Activities in this priority area aim at strengthening the capabilities of national industrial policy and development finance authorities to assess the requirements of industrial rehabilitation at the enterprise, subsectoral and sectoral levels and put into effect appropriate policies and financial packages for revitalizing or reorienting troubled industries. At the same time, the programme aims at enabling countries to adopt longer-term measures conducive to creating a resilient base for industrialization.

The response

UNIDO approaches industrial rehabilitation at three distinct levels ...

54. The rehabilitation assistance of UNIDO will be programmed so as to tackle problems at three distinct levels: (i) at the level of specific enterprises and plants in order to identify and solve critical bottlenecks; (ii) at the level of specific industrial subsectors, including their technical support infrastructures; and (iii) at the industrial policy level in order to remove major obstacles to the viable development of industry. At the first level, the emphasis will be on diagnostic activities covering technical, economic, management, organizational, institutional and policy aspects of the plants' activities, leading up to comprehensive rehabilitation projects and examination of their feasibility. At the second level, the emphasis will be on the development of programmes for institutional support, structural rationalization and the creation of rational and cohesive production structures. At the third level, the emphasis will be on the policy implications of efforts undertaken at the first two levels and the promotion of appropriate measures.

... a key feature of which is linking sector-wide restructuring strategies to micro-level analyses of enterprises and their modernization potential.

55. Opportunity surveys and prefeasibility studies should involve extensive auditing of a broad sample of existing enterprises. Technical co-operation will be aimed at improving productivity and production processes, ensuring an optimum product mix, enhancing quality and adjusting to new market segments, as well as upgrading organizational, operational and managerial capabilities that can adapt continuously to changing external conditions. Thus, a key feature of the Organization's approach will be its linking of sector-wide rehabilitation strategies to micro-level analyses of enterprises and their modernization potential. Due account will be taken of the subsectoral priority areas of individual developing countries, such as agro-industries.

Co-ordinated mobilization of major activities.

56. The major programme instruments directed towards this problem area are: (a) policy and survey studies (country-specific rehabilitation opportunity studies or pre-diagnostic surveys); (b) feasibility studies; (c) formulation and promotion of action programmes; (d) technical co-operation at national and regional levels; (e) investment promotion in order to secure financial resources and technical partners to put into effect the intended rehabilitation; (f) monitoring and evaluation of programmes; and (g) policy dialogue, in particular Consultations, in which diagnoses of subsector-specific problems and rehabilitation project experience are discussed as a basis for: (i) improving the policy environment for industry; and (ii) exploring mechanisms and arrangements for international co-operation. In these activities, UNIDO will co-operate closely with the World Bank and other multilateral development banks, as well as national financing institutions.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

57. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 323 Programme Development Support; 331 Africa ; 332 Arab Countries; 333 Asia and the Pacific; 334 Europe, Mediterranean, Global and Interregional; 335 Latin America and the Caribbean; 341 Global Issues and Policy Analysis; 342 Regional and Country Studies; 343 Industrial Statistics and Sectoral Surveys; and 351 Industrial Co-operation and Management Services.

58. Major programme 400 Industrial Promotion, Consultations and Technology: 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; and 443 Basic Technologies.

59. Major programme 500 Industrial Operations: 511 Interregional Advisers; 512 Integrated Industrial Projects; 521 Agro-based Industries; 522 Chemical Industries; 523 Metallurgical Industries; 524 Engineering Industries; 531 Industrial Strategies and Policies; 533 Industrial Management and Rehabilitation; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

4. Small- and medium-scale industries

The challenge 5/

The great potential offered by small- and medium-scale industries is a challenge in itself, ...

60. In the developing countries, the formal small- and medium-scale industry sector contributes between 10 and 20 per cent of industrial output and absorbs 40 to 60 per cent of industrial employment. The great potential offered by these industries, especially in terms of their contribution to a broader and more resilient base for industrialization, is a challenge in itself, since great difficulties have to be overcome in fostering and accelerating their development. This challenge assumes a note of urgency in many debt-ridden developing countries, given the fragility of import-substitution industries which are dependent on foreign equipment and managerial resources, and imported raw and intermediate materials. Fostering domestic resource-based and local market-oriented industries calls for innovative approaches to creating an enabling environment along with a supporting business infrastructure for entrepreneurs in small-scale industries.

... demanding both a critical assessment of macro-industrial policy and forward planning so as to establish a proper interface with the modern industrial sector.

61. The promotion of small-scale industries should be pursued through an industrial policy that does not discriminate in favour of different branches of industry or sizes of enterprise. It is important to remove any major bias that may have built up against small-scale industries. The policy mix in support of small-scale industry should cover such factors as the legal system governing property and contract rights, regulatory and promotional policies, credit availability, fiscal incentives and macro-economic policies, taking due account of the need to bring about the effective integration of women in the sector. Obtaining loans from the formal banking system is particularly difficult for small-scale and rural industries. Appropriate policy reforms should be accompanied by technological extension services and improvements in the financial structure. A truly viable small industry sector should be fully integrated with the modern industrial sector.

Objective

The primary objectives of the UNIDO small- and medium-scale industry programme.

62. The activities under this heading have two specific objectives. One is oriented towards stimulating small business enterprises in rural areas. The other is geared towards developing relatively skill-intensive small- and medium-scale industries, which can exploit export opportunities through measures such as sub-contracting arrangements.

The response

The two approaches adopted by UNIDO pay due attention to the broader industrial system, of which small and medium enterprises are an integral part, ...

63. Both objectives address the need to provide technical services and financial facilities suitable for assisting small-scale entrepreneurs, and to amend national industrial policy so as to reduce the bias against small-scale industry. In general, the emphasis of UNIDO technical co-operation will be placed on a modular approach directed towards: (i) developing certain support industries which could serve existing and new small industries, including rural industries, and provide opportunities for the effective integration of women in the industrial development process; (ii) ways and means of expanding the productive and technological links between small independent firms and larger-scale industries both within and across countries; (iii) improving local technological and financial promotion facilities to support small, but often relatively technology-intensive industrial ventures; and (iv) joint maintenance schemes, quality assurance, instrumentation and standardization, testing and market research for export-oriented industries. Small- and medium-scale industries should also receive due attention in the context of industrial rehabilitation.

... and to co-operation between enterprises and associations in different countries.

64. Particular attention should be paid to the potential for enterprise-to-enterprise and association-to-association co-operation. The latter might include, where appropriate, special co-operative arrangements between developed and developing countries and, as emphasized in General Conference resolution GC.3/21, para. 4(c) enlisting the support of regional and subregional institutions in the areas outlined above, through appropriate application of the programme instruments listed in chapter II. Through these forms of co-operation, a blend of public and private initiatives should be achieved appropriate to each country. The System of Consultations should play an active role in promoting the systematic exchange of experience between policy-makers and small-scale entrepreneurs or their representatives from both developed and developing countries.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

65. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 323 Programme Development Support; 331 Africa; 332 Arab Countries; 333 Asia and the Pacific; 334 Europe, Mediterranean, Global and Interregional; 335 Latin America and the Caribbean; 341 Global Issues and Policy Analysis; 342 Regional and Country Studies; and 343 Industrial Statistics and Sectoral Surveys.

66. Major programme 400 Industrial Promotion, Consultations and Technology: 412 Programme Development; 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; 441 Industrial and Technological Information; 442 Technology Policy, Acquisition and Negotiation; 443 Basic Technologies; and 452 Informatics.

67. Major programme 500 Industrial Operations: 511 Interregional Advisers; 512 Integrated Industrial Projects; 521 Agro-based Industries; 522 Chemical Industries; 523 Metallurgical Industries; 524 Engineering Industries; 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

68. Major programme 600 Common Programmes: 620 Industrial Development Decade for Africa.

5. Environment and energy

The challenge 6/

The impact of industrial growth on the global natural resource base and the ever-increasing strain on the environment.

69. As pointed out in the report of the World Commission on Environment and Development (Brundtland Commission Report), only 25 years ago the world was manufacturing one seventh of the goods and producing only one third of the minerals that it does today. This rapid growth of industrial production, it is noted, has had an impact on the global natural resource base through the entire cycle of raw materials exploration and extraction, transformation into products, energy consumption, waste generation and the use and disposal of products by consumers. The impact of industry has been positive in the sense of enhancing the quality of a resource or extending its use. However, the negative effects, as a result of process and product pollution and of depletion or degradation of resources, have to be recognized and attempts made to minimize these effects. At present rates of population and production growth, world output will increase by a factor of four in 40 years, thus exerting a similar strain on the environment unless radical changes take place. It has been recognized that: (a) the greater part of current emission of pollution into the environment originates in developed countries; (b) these countries bear a major responsibility for combating such pollution; and (c) international co-operation between developed and developing countries is essential to securing relevant scientific information on environmentally sound technologies.

Greater involvement by industry and Government alike.

70. Many developing countries are increasingly aware of the hazards of industry. They are introducing environmental protection and resource conservation policies and programmes. Industry has also responded by developing new non-polluting technologies and production processes - an endeavour to which biotechnology and genetic engineering can make a major contribution. The very complexity of the causes and effects of pollution require still more concerted efforts. The solutions adopted by industry, however, are mostly based on short-term economic considerations. Clearly, pronounced public policy involvement is essential to the identification and introduction of longer-term solutions to environmental problems. If industrialization is to be sustained, its operations will have to be so designed as to create less pollution and waste, utilize renewable rather than non-renewable resources and minimize irreversible adverse impacts on human health and natural environment. At the same time, experience has shown that in many instances environmentally compatible technologies have reduced costs of production, and, as a consequence, the incremental investments in such technologies have yielded short pay-back periods.

Most developing countries lack the experience and resources needed to tackle environmental problems.

71. Most developing countries lack experience in dealing with environmental problems. The existing institutional infrastructure for monitoring environment quality and health standards in these countries appears to be inadequate. It is important to bear in mind that each country has its unique macro- and micro-environmental characteristics. At the same time each country is constrained in terms of the economic resources that it can afford to devote to environmental protection. The difficulties described in connection with energy (see paras. 72-73) also apply to environmental policy and planning, calling for close linkage between industry-specific policies and economy-wide environmental policy. Whereas all scientific phenomena may not yet be fully understood, the long lead-time needed for remedial efforts calls for immediate action by all countries, both individually and collectively.

Growth and energy are inseparable issues that call for appropriate policies ...

72. Without exaggeration, energy is one of the most fundamental development issues. Growth, particularly in the developing countries, calls for major increases in the use of energy. Some sources speak of world primary energy consumption increasing by some 50 to 70 per cent over the next 30 years. The pattern of consumption, however, will be geographically uneven. Since 1973, the industrialized countries have been able to achieve a 30 per cent increase in GDP, while their consumption of primary energy has stagnated. Since 1980, the rate of growth in energy consumption in the developing countries has been over 3.5 per cent per annum. Although this growth rate is lower than that of the previous decade, it nevertheless imposes a major burden on the developing countries. Industrial growth in developing countries induces increased energy consumption, thus imposing an inordinate strain on local energy supplies. Energy policies must take account of the depletion of fossil fuels and environmental concerns. In the short term, efforts must be made to increase the efficiency of energy use and conservation; in the medium term a shift should be made from the use of coal and oil to gas and hydroelectricity. In the long term, policies must display a greater commitment to the development and utilization of renewable energy resources.

... and a multidisciplinary effort.

73. Yet progress has been notably slow in those countries which lack local technological and institutional capacities for energy planning and R&D. Energy problems, like environmental problems, require that linkages be strengthened between different economic sectors (such as agriculture, industry and transport) and the energy sector (electricity, oil refineries and distribution systems, coal, gas and renewable energy sources, such as solar energy, biogas and hydropower).

Objective

The primary aim of the UNIDO programme.

74. The programme aims at ensuring the environmental sustainability of industrial development and maximizing the beneficial impact of industry on the quality of life by minimizing its adverse environmental effects, while conserving energy through its recovery and recycling, as well as the utilization of renewable sources of energy.

The response

The focus of the UNIDO environment programme.

75. UNIDO is contributing to the global endeavour towards sustainable development by initiating a comprehensive programme that expands and intensifies its technical co-operation activities dealing with environmental problems in developing countries (see document GC.3/32), which the General Conference at its third session in resolution GC.3/Res.21, para. 4(a) requested the Director-General to take into account when revising the medium-term plan. This programme will consist of in-house staff training, promotional activities directed towards clean, low-waste, energy-efficient and recycling or re-use technologies, technical assistance in pollution control, as well as related research and information activities. Greater resources will be allocated to advisory services, sensitization and promotional activities, institution-building projects and training workshops, dealing with all aspects of the selection of cleaner technologies, emission standards, environmental sampling, pollution control technologies, waste and effluent treatment, the management of hazardous materials and processes, industrial risk management and environmental technology assessment. Increased efforts will be made at Headquarters to develop an environmental data base containing details of environmental standards and the environmental implications of technologies, as well as monitoring devices for environmental planning. Ultimately, this will permit the application of practical guidelines for assessing the environmental impact of both investment and technical co-operation projects. Studies will be undertaken, in collaboration with the

policy research bodies in the countries concerned as well as with UNEP and other organizations, to assess the benefits and costs of environment-related policy alternatives. The System of Consultations will be used to ensure that both Governments and industry are aware of such policy alternatives, as well as of the sources and terms of acquisition of cleaner process technologies and waste treatment and recycling technologies, thus creating new opportunities for co-ordinating inter-country policies and action programmes. Since environmental problems know no national boundaries, UNIDO will promote bilateral and multilateral co-operation in tackling environmental issues. The success of UNIDO's intentions will be determined by the extent to which additional resources in the form of voluntary contributions are made available to the Organization since it has limited scope for redeploying staff resources to the programme.

The major areas of emphasis in the energy programme.

76. With regard to energy, activities will focus on the conservation of energy, the recovery and recycling of energy and the utilization of renewable sources of energy. Energy-intensive basic industries, such as steel, aluminium, fertilizer, cement and glass, will receive special consideration in the introduction of energy-efficient technologies, offering production economies. In respect of renewable sources of energy, activities will focus on: (i) the direct or indirect utilization of wind and solar energy; (ii) utilization of biomass; and (iii) use of hydroelectric power. These activities will be reflected in an energy programme to be drawn up by the Organization in the early part of the medium-term plan period.

The technical co-operation and other activities of UNIDO will be fully integrated with the system-wide efforts in the energy field.

77. National and subregional technical co-operation projects will focus more intensively than in the past on: development of appropriate repair and maintenance capabilities for energy-generating facilities; progressive local production of energy-related capital goods; adoption of energy-conservation and substitution technologies in the context of rehabilitating, reorienting and expanding existing industries; and applied research and development related to new and renewable sources of energy. UNIDO will continue to participate actively in the United Nations system-wide co-ordinated efforts at assisting developing countries in research and development related to new and renewable sources of energy and associated technologies.

Harmonization of strategies throughout the UN system.

78. In respect of both environment and energy matters, UNIDO will continue to work in close co-operation with UNEP, ECE, IAEA, UNDP, WHO, ILO, UNESCO and other appropriate international institutions. Its approach will also be kept in harmony with the preparatory deliberations and conclusions of the United Nations Conference on Environment and Development to be held in 1992, as well as the new International Development Strategy for the Fourth United Nations Development Decade which, in all likelihood, will include new guidelines for a system-wide response to environmental issues.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

79. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 324 Environment Co-ordination; 331 Africa; 332 Arab Countries; 333 Asia and the Pacific; 334 Europe, Mediterranean, Global and Interregional; 335 Latin America and the Caribbean; 341 Global Issues and Policy Analysis; 342 Regional and Country Studies; and 343 Industrial Statistics and Sectoral Surveys.

80. Major programme 400 Industrial Promotion, Consultations and Technology: 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; 441 Industrial and Technological Information; 442 Technology Policy, Acquisition and Negotiation; 451 Industrial Technology Monitors; 452 Informatics; 453 Biotechnology and Genetic Engineering; and 454 New Technologies.

81. Major programme 500 Industrial Operations: 511 Interregional Advisers; 512 Integrated Industrial Projects; 521 Agro-based Industries; 522 Chemical Industries; 523 Metallurgical Industries; 524 Engineering Industries; 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 533 Industrial Management and Rehabilitation; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

Three elements common to industrial development, including the thematic programmes

1. Mobilization of financial resources for industrial development

The challenge 7/

The flow of external resources to the industrial sector is increasingly restricted ...

82. The debt crises that marked the 1980s have led to certain shifts in the policies adopted by major lending agencies as a result of increased commercial and political risks faced by lenders to highly indebted developing countries. The global economic slowdown has intensified competition among the industrialized countries as they promote their exports of capital goods by mixing ODA funds with commercial export credits. Co-operation between IMF, the World Bank and other credit agencies has grown still closer. Most private and official credit agencies regard the degree of compliance with adjustment programmes supported by multilateral financing agencies as a major factor in establishing a country's creditworthiness.

... yet, new ways of increasing that flow must be found.

83. Although scope exists for improving the domestic financial system within each developing country so as to mobilize domestic savings, domestic resources cannot fully replace foreign resources. New ways will have to be found to increase the international flow of finance to productive industrial investment required for restructuring and revitalizing their industry.

Objective

The primary aim of the UNIDO programme.

84. The aim of UNIDO is to find those new ways of increasing the flow of finance to productive industrial investment essential to restructuring and revitalizing industry in developing countries.

The response

Mobilization of financial resources for industrial development is a thematic focus particularly applicable to the promotional activities of UNIDO.

85. Although UNIDO has only limited means of influencing national or international financial machinery, the General Conference at its third session recognized that UNIDO had a clear role to play in promoting the direct mobilization of financial resources for the industrialization of developing countries and in improving methods and systems for attracting and obtaining resources for co-operation within developing countries (see GC.3/Res.5). UNIDO can help to increase the flow of resources to productive investment projects by supporting industrial investment planning and policy formulation processes; by working more closely with financial institutions in developing countries; by identifying, appraising and promoting industrial investment and rehabilitation opportunities; as well as by promoting enterprise-to-enterprise co-operation involving direct foreign investment and technical co-operation agreements. The mobilization of financial resources is common to such UNIDO activities as the formulation of industrial master plans and policies for industrial investment, rehabilitation and transfer of technology. Three interrelated activities are particularly important: (i) timely assistance in the formulation of national industrial investment policies and programmes, the identification of investment opportunities and the preparation of pre-investment and feasibility studies; (ii) the identification of domestic (private or institutional) sponsors and potential (domestic and/or foreign) partners providing finance, technology and/or management for investment projects; and (iii) strengthening local investment project development and promotion facilities and capabilities. In addition to efforts at the national level, those activities would also seek to identify industrial investment projects at the regional and subregional levels, as well as sources for their financing, in keeping with the emphasis set in General Conference resolution GC.3/Res.21, para. 4(d).

UNIDO policy for direct promotional assistance at the grass-roots level.

86. The direct promotional assistance that UNIDO provides to selected business agents, public or private, is geared to reducing major information and transaction costs. Such costs are prohibitively high for small- and medium-scale enterprises, as well as for those developing countries (especially least developed countries) which still have little experience of seeking foreign investment and promoting the transfer of technology. In order to concentrate limited resources on high-impact projects, both projects and sponsors should be selected according to the industrial development priorities in the countries concerned. Support for small projects and small operators should be aimed at clusters of projects and entrepreneurs so as to involve as large a number of direct and indirect beneficiaries as possible. The primary objective of the grass-roots promotional activities of UNIDO is to develop, test and demonstrate the mechanisms and art of public promotion policy at that level.

... and the need to link UNIDO activities with those of development finance institutions.

87. Furthermore, UNIDO can assist in improving the quality of investment by ensuring that investment projects include features that heighten the absorption and adaptation of technology. UNIDO can assist countries to complement increased investment flows by strengthening the human resource and institutional infrastructure needed to ensure the productive use of, and returns from, the investment made. However, linking technical co-operation with financial co-operation is more easily said than done, since the basic rules and criteria governing the two types of operations are quite different. It is essential for UNIDO to enhance its co-operation with industrial development banks and finance institutions so as to be able to manage more effectively than hitherto the interface between its own technical co-operation instruments and those of the development finance institutions.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

88. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 323 Programme Development Support; 331 Africa; 332 Arab Countries; 333 Asia and the Pacific; 334 Europe, Mediterranean, Global and Interregional; 335 Latin America and the Caribbean; 351 Industrial Co-operation and Management Services; and 353 Project Review Committee Secretariat and Funds Administration.

89. Major programme 400 Industrial Promotion, Consultations and Technology: 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; 441 Industrial and Technological Information; and 442 Technology Policy, Acquisition and Negotiation.

90. Major programme 500 Industrial Operations: 511 Interregional Advisers; 512 Integrated Industrial Projects; 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 533 Industrial Management and Rehabilitation; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

91. Major programme 600 Common Programmes: 620 Industrial Development Decade for Africa.

2. Economic co-operation among developing countries (ECDC) and subregional industrial co-operation

The challenge 8/

ECDC enjoys general political support, yet its translation into concrete industrial projects is still problematic.

92. The mechanism of economic co-operation among developing countries has been the subject of special international attention. A number of international conferences have been held and numerous plans or action programmes adopted for the promotion of ECDC/TCDC. Nevertheless, in the industrial sector, results thus far have not been commensurate with the intentions expressed. This is partly due to the now acknowledged difficulty of financing ECDC/TCDC projects and of translating general political proclamations into operational commitments, especially with regard to investment projects involving subregional co-operation.

The industrial activities of subregional economic groupings need to be consolidated, and particular attention paid to developing inter-country networks.

93. It is now recognized that economic and technical co-operation among developing countries works best with a "bottom-up" approach based on identified capacities and needs of partners. Key ingredients for success are reliable and up-to-date information on beneficiaries' real interests and suppliers' proven capabilities, as well as properly functioning mechanisms to bring the two together at the subregional, regional or interregional level. Furthermore, regional and subregional economic groupings of developing countries are expected to play an increasingly important role in the 1990s; their activities in the industrial sector with regard to ECDC and TCDC thus need to be consolidated and strengthened. Industrial co-operation between developing countries can capitalize on potential economies of scale and complementarities of production. This continues to entail greater commitment among member countries to creating complementarity arrangements in such areas as industrial raw materials, intermediate and final products, legislation, and administrative and commercial practices, as well as in the creation of technical infrastructures for the development of technological, managerial and entrepreneurial resources. Moreover, as noted before, sub-contracting networks could play an important role. 9/

Objective

The primary objectives of UNIDO ECDC/TCDC activities.

94. The primary objectives of the activities of UNIDO in this area are: (a) to consolidate efforts taken by developing countries to establish and strengthen their capacities to identify subregional, regional and interregional priorities for the industrial sector in order to enhance ECDC/TCDC; and (b) to increase awareness of needs for and offers of economic and technical co-operation among developing countries.

The response

The basic thrust of activities inducive to ECDC.

95. In order to have ECDC support in the implementation of the five thematic programmes, UNIDO will consider in keeping with General Conference resolution GC.3/Res.21, para. 4(e) possible effective alternatives for regional and subregional co-operation. To that end, it will utilize and strengthen existing institutional bases at the national, subregional and regional levels for development in areas such as: identification of industrial and technological problems amenable to ECDC or TCDC solutions; matching demands for economic and technological co-operation with the capacity of Governments, institutions and enterprises to supply expertise, equipment and other services and to share experience and facilities; promotion and support for technological centres and networks concerned with the development and transfer of technology; in particular, activities leading to strengthening and establishing co-operation between national "centres of excellence" in specialized technological fields; the development of local consultancy capacities for industrial rehabilitation and restructuring; exchange of experience among national extension service institutions and industrial associations; and promotion of enterprise-to-enterprise co-operation in order to realize industrial complementarity schemes. The System of Consultations and other UNIDO promotional activities could provide an appropriate framework for initiating these types of co-operation.

Strengthening the programme.

96. UNIDO's organization-wide ECDC/TCDC programme will be strengthened in three main ways: by increasing the financial resources allocated to it; by in-house promotion of ECDC and TCDC as operational instruments; and by strengthening the information component as a service to Governments and industry in developing countries.

Greater use of different sources of funding.

97. Greater use will be made of the Industrial Development Fund for ECDC and TCDC projects. Increasing attention will go to mobilizing financial resources in the form of trust funds. Technical co-operation in support of enterprise-to-enterprise co-operation, on the basis of self-financing trust funds paid for by one or both potential partners, will be expanded. Co-operation promotion offices are now under consideration in several developing countries. In addition, ECDC usually accounts for a major portion of four regular programme allocations: co-operation among developing countries, special needs of the least developed countries (used particularly for solidarity meetings), IDDA, and training.

Enhancing the information component.

98. Strengthening the information component will tackle the problem of lack of information - considered by many as the major reason for the failure of TCDC and ECDC to realize their potential. UNIDO will continue to co-operate with UNDP in supplying information on industrial training programmes for the UNDP/TCDC Information Referral System (INRES-South) data base of services available in developing countries. An ECDC-window in the INTIB service will give developing country industry greater access to expertise, technology and equipment from other developing countries. To maximize the impact of these information services, UNIDO field representatives will be mobilized both to promote the use of such information services and to serve as a major channel of communication to Governments, industrial institutions and enterprises.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

99. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 331 Africa; 332 Arab Countries; 333 Asia and the Pacific; 334 Europe, Mediterranean, Global and Interregional; 335 Latin America and the Caribbean; 336 Economic Co-operation among Developing Countries; 341 Global Issues and Policy Analysis; 342 Regional and Country Studies; and 351 Industrial Co-operation and Management Services.

100. Major programme 400 Industrial Promotion, Consultations and Technology: 412 Programme Development; 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; 441 Industrial and Technological Information; 442 Technology Policy, Acquisition and Negotiation; 443 Basic Technologies; 451 Industrial Technology Monitors; 452 Informatics; 453 Biotechnology and Genetic Engineering; and 454 New Technologies.

101. Major programme 500 Industrial Operations: 511 Interregional Advisers; 512 Integrated Industrial Projects; 521 Agro-based Industries; 522 Chemical Industries; 523 Metallurgical Industries; 524 Engineering Industries; 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 533 Industrial Management and Rehabilitation; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

102. Major programme 600 Common Programmes: 610 Regular Programme of Technical Co-operation; and 620 Industrial Development Decade for Africa.

3. Integration of women in industrial development

The challenge 10/

Interrelationship between women's position in the economy and basic development policy objectives.

103. Given the interrelationship between the improvement of women's position in the economy and the basic objectives of development policy, providing women with the opportunity to increase and improve their contribution to economic development is an important means of achieving the fulfilment of basic development goals. The educational, social and legal barriers to quantitative and qualitative expansion of female involvement in the manufacturing sector have a negative impact which goes beyond the income of women and their families; policies aiming at expanding the role of women in industry therefore bear significance for development as a whole. Both research and practical experience have demonstrated that consideration of gender roles in programme and project planning can be a key factor in the successful attainment of development objectives.

Women are contributing increasingly to the process of industrialization.

104. Women are participating in and contributing to the industrialization process to an ever-increasing degree in both the small-scale and modern industrial sector. In the small-scale industry sector their contribution is usually unrecorded but indispensable to supplying rural and urban needs. In the modern sector the overwhelming majority of women work in a limited number of low-skill and poorly rewarded jobs. The contribution of women to manufacturing, however, is not restricted to production work alone. Women are also involved as industrial entrepreneurs; they are active in such related areas as industrial planning and administration, industrial research, quality control and marketing. Yet, in most developing countries, industrial training opportunities for women are insufficient and largely limited to traditional occupations. Vocational guidance and career counselling for women students are generally inadequate. Specific measures need to be taken to increase the number of trained and qualified women. Despite certain achievements, serious obstacles such as cultural barriers continue to inhibit the participation of women in decision-making, planning and management in both the public and private sectors.

The introduction of new technologies and the related changes in skill content bear major implications for women.

105. It is particularly essential that women be involved in work related to the promotion of science and technology so that they can benefit from the emerging high technologies that are rapidly changing the skill content of manufacturing activities. The present situation in different developing countries and regions needs to be carefully analysed in terms of the impact of technological change on the status of women in industry so as to develop policies which ensure the future participation of women on an equal footing with men.

Objective

The primary objectives of the UNIDO programme for the integration of women in industry.

106. The UNIDO programme seeks to increase at all levels the number and proportion of women engaged in industry and related activities in both rural and urban areas in developing countries. It also seeks to institutionalize within its staff the ability to address women's issues and to elaborate operational procedures for the inclusion of gender-specific indicators in the design and implementation of activities in the area of industrial planning/human resource development, agro-industries, small-scale industries and development of appropriate technologies.

The response

UNIDO will ensure that women are fully integrated in all its programmes and that they are equal beneficiaries in all projects.

107. In accordance with General Conference resolution GC.3/Res.15 on the integration of women in industrial development, and in line with the System-Wide Medium-Term Plan for Women and Development for the period 1990-1995, UNIDO will ensure that women are more fully integrated in technical co-operation and promotion activities as well as in policy study and research programmes through the application of the guidelines it has established. Care will be taken to ensure that women are equal beneficiaries, especially in projects related to industrial planning, small-scale and agro-industries as well as to the development of appropriate technologies and human resources. To that end, women-in-development sectoral specialists will be attached to programming missions, to selected technical co-operation projects in the areas mentioned above and to programme and project evaluation teams, especially in the agro-industry and small-scale industry sectors. Subsector-specific guidelines will be elaborated to ensure the integration of women in all stages of the programme/project cycle.

Studies and training programmes.

108. Studies, in particular subsectoral, regional and country studies will address the issue of female participation in industry. Clear emphasis will also be given to human resource development. Special training programmes for women in technological, managerial and entrepreneurial skills will be continued and training institutes in developing countries will be encouraged and assisted to organize appropriate courses for women. A statistical data system related to the participation of women in industrial activities will be developed, within the framework of the UNIDO technical co-operation programme, for the collection and dissemination of industrial census data to assist policy-making bodies in developing countries.

Supplementary meetings and increased awareness.

109. These endeavours will be supplemented by expert group meetings and seminars designed to discuss specific strategies, refine approaches for the advancement of women in industry and enhance awareness among policy-makers of these issues. At the same time, extensive training will be undertaken in-house so as to increase staff awareness of the role and contribution of women in industrial development, provide an understanding of the rationale for gender analysis in specified programming contexts and familiarize project officers with the techniques of addressing gender-related issues in the programme formulation process.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

110. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 342 Regional and Country Studies; and 352 Integration of Women in Industrial Development.

111. Major programme 400 Industrial Promotion, Consultations and Technology: 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; 441 Industrial and Technological Information; 442 Technology Policy, Acquisition and Negotiation; 443 Basic Technologies; and 452 Informatics.

112. Major programme 500 Industrial Operations: 512 Integrated Industrial Projects; 522 Chemical Industries; 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 533 Industrial Management and Rehabilitation; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

The regional dimension

The challenge 11/

The varied needs of different developing regions must be taken into account.

113. The Organization must be prepared to accommodate the great diversity of needs facing individual developing countries and regions with different socio-economic constraints. The conditions and prospects of development vary greatly from one developing region to another. The developing countries' net gain in the share of world manufacturing value added was only 1.9 percentage points in the period from 1975 to 1989. This aggregate masks major differences between regions in their share of world manufacturing value added. In 1989 the regional shares (with changes in share from 1975 in parenthesis) were: Latin America 5.2 per cent (-0.7); sub-Saharan Africa 0.4 per cent (-0.1); North Africa and Western Asia 1.9 per cent (+0.3); South Asia 1.7 per cent (+0.5); East and South-East Asia 3.8 per cent (+1.9).

East and South-East Asia.

114. The high gain in the last group of countries was accompanied by double-digit industrial growth over many years, with massive inflows of foreign investment and marked export growth based on rapid industrial restructuring that combined advanced technologies with relatively cheap skilled labour. While for the countries of South-East Asia this situation is likely to continue well into the 1990s, emulation of this model in other regions would require careful modification. Those Asian countries that have not enjoyed this rapid growth are calling for urgent assistance in achieving accelerated industrial development as their international relations become more stable.

Latin America and the Caribbean.

115. Latin America is richly endowed with natural resources and has a fairly advanced industrial structure with relatively sophisticated managerial and technical skills, and relatively high per capita incomes (although with a highly skewed income distribution). External debt has been an overriding economic problem and will continue to be so well into the 1990s. In the absence of a sustained recovery of the primary commodity markets, the region will continue to face the serious conflict between the need to achieve external balances and yet preserve internal growth and stability. Moreover, the run-down in capital assets during the debt crisis poses a great problem, giving rise to the need for industrial revitalization and rehabilitation.

Sub-Saharan Africa.

116. Although debt also poses a major threat to Africa, sub-Saharan Africa, in particular, suffers from major problems in the production system that can only be resolved through efforts to find long-term structural solutions. These problems largely stem from a lack of skilled manpower at all levels. The first Industrial Development Decade for Africa (IDDA) and the United Nations Programme for African Economic Recovery and Development (UNPAAERD) came to their conclusion in 1990 and were subject to extensive mid-term reviews, which confirmed the need for further efforts, with particular reference to the second IDDA, to tackle the underlying structural factors and overcome the impact of recurrent drought and other natural disasters on food security.

North Africa and Western Asia.

117. The countries of North Africa and Western Asia also face limited growth prospects owing to reduced oil incomes. This has prompted them to attempt diversification from oil production into other subsectors of industry. In several countries in the region, efforts are being made to privatize public sector industries, as well as stimulate the role of the private sector in general. Within the region, efforts are being made to promote intraregional co-operation in joint investment projects and trade. These efforts will be constrained by the economic consequences of the Gulf war.

Least developed countries.

118. The least developed countries will continue to fall behind the rest of the developing world. Their rate of economic growth has been frequently below the growth rate of their populations. Typically, they have relatively poor or underutilized natural resource endowments, small domestic markets and high transport costs. They lack well-balanced, diversified industrial structures; their development paths are highly dependent on and vulnerable to international trade. Their situation calls for a forceful approach to the development of human resources and technological capabilities, and the effective utilization of opportunities offered by regional or subregional co-operation.

Objectives

The primary objectives of the UNIDO programme and project development activities.

119. The objectives are (a) to draw up technical co-operation programmes and projects at the country, subregional, regional and interregional levels; (b) to formulate and appraise projects to be carried out within those programmes; and (c) to obtain the financial resources necessary to implement these projects.

The response

A sharper country focus to assist the neediest countries and regions.

120. Especially in the context of its technical co-operation activities, UNIDO will strengthen its systematic identification of country-specific problems and potentials in the fields of its competence. This will be combined with careful monitoring of its co-operation programmes at the country, regional and subregional levels. At the same time, UNIDO will ensure that its studies, consultations and promotional activities are more action-oriented. Both the scale and calibre of the country desks established for technical co-operation purposes should be enhanced with integrated responsibilities for programme development, monitoring, implementation and follow-up. An organizational improvement in this direction would contribute to rendering more effective assistance to developing countries with a relatively low absorptive capacity.

Co-operation in the Asia and Pacific region.

121. For the Asia and Pacific region, in addition to the ongoing technical co-operation activities at the country level, emphasis will be placed on programmes for the least developed countries in the region. Specific attention will be paid to programmes in support of small-scale industries, metalworking and fish-processing industries. At the regional level, attempts will be made to facilitate the integration of the least developed countries into existing subregional co-operation mechanisms such as ASEAN, SAARC and the South Pacific Forum, as well as to develop regional information and co-operation networks in respect of specific subsectors or topics. The technical know-how acquired by the newly industrializing countries in the region will be utilized to the benefit of other countries through the use of experts and equipment from the newly industrializing countries in technical co-operation projects.

The basic orientation of a special regional co-operation programme for Latin America and the Caribbean.

122. For the Latin America and Caribbean region, a programme facilitating concerted action by multilateral and bilateral development agencies is needed in order to help national policy-makers and industrial communities to take decisive steps towards industrial restructuring. This would enable them to cope with the immediate and medium-term requirements arising from changing market conditions which threaten the survival of existing enterprises. It would also help them to develop new export-oriented industries that would contribute to the alleviation of the region's overriding debt problem. The fulfilment of this need may be facilitated by an improvement in the macro-economic environment in some countries which would enhance their prospects of securing foreign investment. These industries could incorporate appropriate elements of newly emerging technologies, supported by more dynamic intra- and intersectoral linkages involving small- and medium-scale enterprises. This latter aspect assumes particular importance in increasing employment and extending urban-rural economic linkages for development. Subregional and bilateral industrial co-operation should become a driving force in such a restructuring process. In view of the relatively small allocation of UNDP resources (which reflects the relatively high per capita income levels of Latin American countries), extra resources will be required to finance technical co-operation projects. Priority areas include the development and transfer of technology and related human resource development, particularly in the fields of biotechnology, new materials, electronics and data processing. Moreover, efficiency-oriented restructuring and export promotion could benefit from subregional co-operation and sub-contracting networks in both the capital goods and agro-industrial sectors.

UNIDO will support the industrial revitalization efforts of Africa in compliance with regional objectives and strategies.

123. UNIDO will continue to assign priority to assisting African countries and organizations, in compliance with the objectives of IDDA, UNPAAERD and Africa's Priority Programme for Economic Recovery 1986-1990 (APPER) and in co-ordination with the activities of the African countries themselves. 12/ International technical and financial assistance will be mobilized to support the industrial revitalization efforts of the region. In deploying these resources, the Organization will be guided by the need to address fundamental growth-related issues as well as short-term adjustment measures.

The areas of emphasis in Africa.

124. The thrust of the efforts of UNIDO in Africa will include the development of interrelated programmes in support of the expressed objectives of the countries in the region. The underlying thread will be the building up of human and institutional capabilities and of productive resources. In the light of the mid-term evaluation of IDDA and UNIDO's own assessment of the assistance it has given to African countries, UNIDO intends to consolidate and focus its assistance on carefully selected industrial sectors/branches, in particular agro- and agro-related industries. This would also be in accordance with the priorities set in APPER, UNPAAERD and IDDA. In order to ensure that these programmes achieve maximum impact, UNIDO will accord priority to: supportive industrial policies, strategies and plans; development of small-scale industries linked to agriculture; industrial human resource development; promotion of industrial investment; and strengthening of industrial institutions which support and service industry. Particular attention will be paid to co-ordinating, maintaining and following up all Decade-related activities carried out by UNIDO and ensuring their effective harmonization with the activities of other organizations within the region and within the United Nations system. Additional resources for programmes and projects in the above areas will be sought in the form of contributions to the Industrial Development Fund or various trust fund arrangements.

The openings for regional co-operation between the Arab countries.

125. For the Arab countries, similar efforts will be made to promote industrial development in priority subsectors of the region, with special emphasis on human resource development, acquisition of advanced technology and food security. The least developed countries in the region will be the object of particular attention. A major feature of these endeavours will be strengthening co-operation between UNIDO and subregional bodies such as AIDMO and GOIC. As in the past, self-financed trust fund projects will constitute a major portion of the technical co-operation programmes of UNIDO in some of the more developed countries in the region. At the same time, specific activities will be developed to support the Palestinian people and to mobilize extrabudgetary finance for technical assistance to the Palestinian people, including the systematic monitoring and promotion of the Palestinian industrial sector and the possible establishment of a marketing centre for Palestinian industrial products.

Many of the least developed countries need to reformulate their industrialization strategies in the light of the radically changed external economic environment.

126. At its third session, the General Conference of UNIDO reiterated the need to continue to accord highest priority to the least developed countries in the technical co-operation and all other programmes of the Organization. The response of UNIDO will include master plans for the industrial development of the least developed countries; market studies; the preparation and evaluation of investment projects; revitalization of ailing industries where economically feasible; expansion of training opportunities; and the continued allocation of resources to permit the participation of officials and industrial specialists from least developed countries in the meetings of the System of Consultations. UNIDO will also increase its efforts to achieve close co-ordination with the second Substantial New Programme of Action (SNPA II). As for the modalities of co-operation, the scope for increasing public revenue in least developed countries is generally limited, and still more so in periods of economic retrenchment, thus accounting for the relatively weak capacity of these countries to absorb external co-operation. In these, as for other developing countries, particular attention should be devoted to ensuring funding for national inputs into development projects and meeting recurrent costs. The latter take on particular importance in co-operation activities that involve maintenance and rehabilitation of existing investments.

Particular attention will have to be paid to the basic resource characteristics of individual countries.

127. Sixteen least developed countries are land-locked, and in programming their industrial development due regard has to be given to the industrial requirements associated with the development and maintenance of their inter-State transit systems. Nine island least developed countries face particular problems associated with inter-island feeder transport systems as well as telecommunication systems. Many least developed countries accord high priority to overcoming insufficient food production and checking the fall in export earnings from the agricultural sector; they require a properly phased development of the links between agriculture and industry. Similarly, several least developed countries have significant energy resources which are underutilized. For example, oil is produced in three countries and reserves have been identified in at least seven others. Natural gas is to be found in at least seven least developed countries, extensive coal reserves in three. Significant hydroelectric potential and a growing interest in small hydroelectric schemes exist in about 20 least developed countries. The full harnessing of these energy resources needs to be factored into the industrial development programmes of the countries concerned.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

128. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 323 Programme Development Support; 324 Environment Co-ordination; 331 Africa; 332 Arab Countries; 333 Asia and the Pacific; 334 Europe, Mediterranean, Global and Interregional; 335 Latin America and the Caribbean; 341 Global Issues and Policy Analysis; 342 Regional and Country Studies; 343 Industrial Statistics and Sectoral Surveys; 351 Industrial Co-operation and Management Services; 352 Integration of Women in Industrial Development; and 353 Project Review Committee Secretariat and Funds Administration.

129. Major programme 400 Industrial Promotion, Consultations and Technology: 412 Programme Development; 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; 441 Industrial and Technological Information; 442 Technology Policy, Acquisition and Negotiation; 443 Basic Technologies; 451 Industrial Technology Monitors; 452 Informatics; 453 Biotechnology and Genetic Engineering; and 454 New Technologies.

130. Major programme 500 Industrial Operations: 511 Interregional Advisers; 521 Agro-based Industries; 522 Chemical Industries; 523 Metallurgical Industries; 524 Engineering Industries; 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 533 Industrial Management and Rehabilitation; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

131. Major programme 600 Common Programmes: 610 Regular Programme of Technical Co-operation; and 620 Industrial Development Decade for Africa.

CHAPTER II. POLICY DIRECTIVES BY MAJOR CATEGORIES OF PROGRAMME INSTRUMENTS

A programme approach

UNIDO must have both a balanced technical capacity and flexible methods of work so as to cope with the complexities of promoting industrial development.

132. In order to fulfil the basic mandates outlined in its Constitution, UNIDO needs to strive for a more balanced technical capacity and flexible methods of work. This will allow it to cope with the complexities of promoting industrial development and to fashion its various operational tools to suit a wide variety of circumstances. Given the overall resource limitations, however, a claim to maintaining an all-round capability can hardly be a practical strategy in itself. In fact, the Organization's capacity is constantly challenged by shifting priorities that reflect changing global conditions. It is proposed that UNIDO continue its efforts to adjust its work programme and improve its organizational flexibility in response to the challenges described in the preceding chapter. This requires adjusting priorities governing overall resource allocations and continuously realigning the work of the Organization on the basis of a programme approach. This would enable UNIDO to establish a niche for itself within the evolving international technical co-operation structure and developing country needs.

The operational significance of the programme approach.

133. The proposed programme approach, which was initially adopted for a regional approach to the leather industry sector in Africa and is now being developed for the fisheries sector in West Africa, is built on three basic co-ordinates: (a) country- and region-specific needs; (b) subsectoral perspectives and technical requirements; and (c) thematic priorities. The five major thematic programmes and the three common elements presented in the preceding chapter offer a basis for similar programme development. Each programme needs to address policy issues and identify investment and technical co-operation projects to be implemented. By concentrating on a limited number of such themes, UNIDO will: (i) diagnose problems in a more comprehensive manner and thereby design better projects; (ii) improve programme management and technical backstopping; and (iii) increase the developmental impact of technical co-operation.

Additional merits in terms of securing funds and inter-agency co-ordination.

134. The programme approach will constitute the framework for co-ordinating, streamlining and broadening the basis for raising funds for both technical co-operation and industrial investment. The programme approach will also contribute to better co-operation and co-ordination with other agencies.

Six major programme instruments of UNIDO

Decision GC.2/Dec.23 on the medium-term plan.

135. In its decision GC.2/Dec.23 on the medium-term plan, the General Conference of UNIDO requested that the draft plan, which was to present the activities of the Organization grouped in programmes and subprogrammes, should serve as a framework for the formulation by the Director-General of the biennial draft programme and budget. The programmes and subprogrammes were to be derived from the functions defined in the Constitution and the legislative mandates of UNIDO, taking into account the policy orientation determined by the policy-making organs.

Article 2 of the UNIDO Constitution provides for ...

136. The functions of UNIDO as stipulated in Article 2 of its Constitution include the basic operational instruments of the Organization. Technical co-operation has been a major instrument in the programme of UNIDO ever since the adoption of General Assembly resolution 2152 (XXI) establishing UNIDO in 1967. The scope of this major programme instrument is defined in specific terms in Article 2 (d), 2 (e), 2 (g), 2 (k), 2 (m), 2 (n), 2 (o) and 2 (q). In its resolution GC.3/Res.21, the General Conference emphasized the importance of including specifically among the programme instruments the pilot and demonstration plants for accelerating industrialization in particular sectors in conformity with Article 2 (m).

... several basic operational instruments.

137. Article 2 (c) stresses "studies and surveys" with a view to creating new and developing existing concepts and approaches, as well as "formulating new lines of action" for "countries with different socio-economic systems for solving industrialization problems". Furthermore, Article 2 provides for several additional instruments: the central co-ordinating role in the field of industrial development (2 (b)); a forum in the form of consultations (2 (f)); a clearing-house for industrial information (2 (h)); promotion of industrial technology (2 (j)); promotion of the establishment and strengthening of industrial, business and professional associations (2 (p)); and assistance in obtaining external financing for industrial projects (2 (r)). The last three may well be combined to constitute a distinctive instrument of industrial promotion, encompassing industrial technology and industrial investment.

Six major programme instruments underlying the framework of the biennial programme and budget.

138. The purpose of this chapter is to lay down a framework whereby the major thematic programme objectives and the thrust of operational strategies of UNIDO presented in chapter I are translated into terms that can be more readily reflected in the biennial programme and budgets. The latter have traditionally drawn on the organizational structure of the Secretariat which reflects the programme instruments, rather than the priority problem areas. Thus, in order to ensure some degree of comparability between past and current programme activities and yet allow for the new priorities, the presentation in this chapter is structured along the following six major programme instruments:

1. Studies and research
2. Policy forums
3. Industrial promotion
4. Information services
5. Technical co-operation
6. Inter-agency co-ordination

Activities relating to UNIDO policy management and programme support are dealt with separately in chapter III.

1. Studies and research

Two subcategories of studies and research.

139. This programme instrument can be divided into two subcategories: (i) studies and research for industrial strategy and policy formulation; and (ii) action-oriented studies and research for policy and programme implementation.

(i) Studies and research for industrial strategy and policy formulation

Objective

The objectives of the first subcategory.

140. The objectives of this instrument are to: (a) monitor and evaluate current industrialization strategies, policies and trends at the global and regional, as well as sectoral, levels; (b) provide an analytical synopsis of major strategic issues related to both economic and technological aspects of industrial development for the benefit of the developing countries in general as well as other development co-operation agencies; and (c) provide an effective focal point for the exchange of analytical research on industrial and technological policy matters among members of the world industrial community with a view to promoting a common perception of priority problems and potentials that require concerted national and international action.

Problems addressed

The need to reappraise strategies.

141. As indicated in paragraph 52, many developing countries find it necessary to reappraise their past industrialization strategies in the light of the rapidly changing international economic environment. They have to address problems of industrial recovery and expansion through appropriate policy reform. They also have to address the issue of technological change and the growing trend towards globalization of industrial production, as these are likely to affect significantly the future development paths of the developing countries.

Specific policy issues of topical importance.

142. Particularly topical issues in policy-oriented studies include: the impact of structural adjustment measures on industrial development (which would be especially important in the context of industrial rehabilitation and the least developed countries); the effects of varied policy instruments on industrial performance; blending public-sector and private-sector initiatives; balancing economic efficiency and equity considerations; the functioning of markets; the effectiveness of policy instruments designed to stimulate and co-ordinate agents involved in industrial and technological development; effective integration of women in industrial development; technology transfer policies; industrial energy conservation and substitution policies; and factors influencing the flow of financial resources to industrial investment in different developing regions and subregions.

The impact of new technologies and advanced technologies.

143. The impact of new technologies will broadly affect the location of industries and services, the organization of production and patterns of comparative advantage. Technological advances in fields such as biotechnology, microelectronics, telecommunications, new materials, fine chemicals and marine industrial technology, as well as energy and environment technologies bear far-reaching implications for the industrial and technological development of developing countries. Such advances need to be analysed and information on them disseminated in order to enable Governments and enterprises in developing countries to manage and absorb technological change.

Strategy for 1992-1997

Studies and research involving studies by local research institutions contribute to improved project design.

144. Studies and research should be undertaken, as far as possible, in collaboration with suitable research institutions in developing countries. The research undertaken should meet the needs of beneficiaries in developing countries as well as the needs of the Organization's policy-making organs. They should also provide a basis for UNIDO to play a more effective role as a central co-ordinating agency in the field of industrial development.

The major series of publications.

145. The results of policy studies and analyses will continue to be disseminated through four series of publications: (i) Industry and Development: Global Report; (ii) country reviews of industrial development; (iii) sectoral surveys on industry and development; and (iv) Journal: Industry and Development. In addition, awareness bulletins and sectoral dossiers on industrial technology will be published as necessary. The sectoral chapters and sections of the Global Report will be more closely linked to the work emanating from the preparatory processes of the Consultations. The country reviews will be based on country-specific surveys and policy studies undertaken under the other category of research (see (ii) below). The fourth series will include analytical work on both technology policy and economic policy, and will be open to contributions from both UNIDO staff and outside researchers. To the extent possible, studies will be published and distributed on a commercial basis so as to recover some of the costs incurred in their preparation.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

146. Major programme 300 Programme and Project Development: 324 Environment Co-ordination; 337 Office of the Director, Area Programmes (Least Developed Countries); 341 Global Issues and Policy Analysis; 342 Regional and Country Studies; 343 Industrial Statistics and Sectoral Surveys; and 352 Integration of Women in Industrial Development.

147. Major programme 400 Industrial Promotion, Consultations and Technology: 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; 425 Office of the Director, Industrial Investment; 451 Industrial Technology Monitors; 452 Informatics; 453 Biotechnology and Genetic Engineering; and 454 New Technologies.

148. Major programme 500 Industrial Operations: 531 Industrial Strategies and Policies; 525 Office of the Director, Industrial Operations Technology; and 533 Industrial Management and Rehabilitation.

149. Major programme 600 Common Programmes: 620 Industrial Development Decade for Africa.

(ii) Action-oriented studies and research for policy and programme implementation

Objective

The objectives of the second subcategory.

150. The objectives of this instrument are to: (a) assist policy-makers in developing countries to gain insight into matters related to the evaluation and design of industrial and technological policies and programmes; (b) prepare studies to assess the need for country and regional technical co-operation; and (c) undertake technical studies related to specialized aspects of technical co-operation and promotion activities.

Problems addressed

Effective field projects require relevant analytical information.

151. UNIDO experts in the field and backstopping officers must have relevant information so that they can address problems of specific industrial branches and related policy environments in which projects are being implemented. All five target problem areas discussed in chapter I require careful analysis so that UNIDO can design and manage its projects more effectively.

Strategy for 1992-1997

Focus on institutional infrastructure for industry.

152. Particular attention will be paid to understanding the process of establishing the institutional infrastructure for industry and its functioning, comprising education, training, technological research and development, information, investment and technology promotion and extension services. The policy environment and the extent to which it is conducive to implementing technical solutions to specific micro-level problems will be an area of specific attention.

Support for public policy measures and mechanisms.

153. Country studies will support the development of effective public policy measures and mechanisms that can have an impact on the collective efforts of industrial enterprises as well as local Governments and non-governmental organizations supporting industrial development. Greater attention will also be devoted to identifying "centres of excellence" at the regional and subregional levels for specialized technical research and industrial support functions, including the training of UNIDO fellows.

Utilization of local research institutions.

154. In order to improve the project design capacity of UNIDO, more pre-project field studies will be undertaken. In these efforts, the services of local research institutions will be used to the extent possible. Furthermore, in institution-building projects, those same research institutions will be fully utilized both as a means of acquiring more accurate information and in order to develop their research capabilities.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

155. Major programme 300 Programme and Project Development: 342 Regional and Country Studies.

156. Major programme 400 Industrial Promotion, Consultations and Technology: 442 Technology Policy, Acquisition and Negotiation; 443 Basic Technologies; and 454 New Technologies.

157. Major programme 500 Industrial Operations: 532 Institutional Infrastructure; 533 Industrial Management and Rehabilitation; and 542 Industrial Human Resource Development.

2. Policy forums

Objective

The objectives of the various policy forums.

158. This programme instrument constitutes an important mechanism for evolving forward-looking policies for the operations of UNIDO as well as for ensuring a convergence of interests among the major actors in industrialization. The objective of the policy-making organs is to approve and review programmes of work and related budgets. The objectives of regional and (sub)sectoral deliberations such as the System of Consultations are to contribute to: (a) defining major issues and areas that represent constraints on the industrial development process in developing countries; (b) formulating policies to overcome those constraints; (c) identifying opportunities for investment promotion, technology transfer and development and technical assistance programmes through effective international industrial co-operation; (d) initiating and promoting action-oriented programmes and projects for implementation in selected industrial sectors; and (e) elaborating strategies for the development of specific subsectors.

Problems addressed

The need to secure agreement on a broad range of issues.

159. Achievement of the target set in the Lima Declaration and Plan of Action calls for an unprecedented degree of co-operation not only between the developed and developing countries, but also among developing countries themselves. This co-operation between Member States needs broad understanding of a variety of subjects, such as expected trends in world industrial structure, mechanisms of industrial co-operation, alternative technologies well suited to the socio-economic environment of developing countries, co-operation among developing countries, and the identification of specific opportunities and projects for co-operation. In tackling these subjects, particular heed should be given to action-oriented discussions on policies and programmes for human resource development and management of technological changes and to desirable changes in the policy environment so as to facilitate industrial restructuring and revitalization in developing countries.

Strategy for 1992-1997

Provision of essential support services to policy-making bodies.

160. Essential support services will be provided throughout the medium-term plan period for the sessions of the General Conference, the Industrial Development Board, the Programme and Budget Committee and any other subsidiary organs, and liaison will be maintained on matters relating to the work of the policy-making organs with Member States and organizations participating in UNIDO. Ministerial conferences at the regional level will be organized as appropriate.

Focus on priority themes.

161. Within the System of Consultations, the thematic approach initiated during the 1988-1989 biennium on subjects such as the linkages between agriculture and industry will be extended further. Consideration will be given to various other themes, such as the energy-industry linkage, the housing/shelter-industry linkage, and the employment-industry linkage in the context of human resource development policy, the role of small- and medium-scale industries, industrial rehabilitation and environmental issues. During the medium-term plan period, UNIDO's own internal efforts focused on these and other themes of significance and will further improve the ground for effective consultation. The System of Consultations will, in turn, be instrumental in sharpening the focus on such themes, especially in terms of the priority issues to be tackled in specific countries and regions, as well as subsectors of industry. Particular heed will be given to action-oriented discussions on policies and programmes for human resource development and the management of technological change.

Greater emphasis on regional consultations.

162. The promotion of economic co-operation among developing countries, particularly in the context of subregional industrial co-operation, will be regarded as an integral part of the System of Consultations. Increased attention will be paid to holding regional consultations with a view to using the System as an instrument to promote industrial co-operation among developing countries.

Closer interface with technical co-operation.

163. A multifaceted approach to the technological development of developing countries will be adopted, the primary objective being the stimulation of local technological capabilities. The participation of the various substantive units concerned with technical co-operation in the process of preparation and follow-up of Consultations will be further intensified in order to generate more innovative technical co-operation programmes and projects in the sectors or subsectors selected by the System. Efforts will also be made to integrate many of the ad hoc expert group meetings being convened outside the System of Consultations into the preparatory and follow-up processes of the relevant Consultations. Those expert groups will also be used to assist in the formulation of operational policies for UNIDO.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

164. Major programme 100 Policy-making Organs: 110 General Conference of UNIDO; 120 Industrial Development Board; and 130 Programme and Budget Committee.

165. Major programme 300 Programme and Project Development: 324 Environment Co-ordination; 336 Economic Co-operation among Developing Countries; and 342 Regional and Country Studies.

166. Major programme 400 Industrial Promotion, Consultations and Technology: 431 Light Industries; 432 Heavy Industries; 433 Process Industries; 434 Common Topics; and 435 Office of the Director, System of Consultations.

167. Major programme 500 Industrial Operations: 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 533 Industrial Management and Rehabilitation; and 542 Industrial Human Resource Development.

168. Major programme 600 Common Programmes: 620 Industrial Development Decade for Africa.

169. Major programme 700 External Relations, Public Information, Language and Documentation Services: 721 External Liaison and Protocol; and 722 Secretariat of Policy-making Organs.

Industrial promotion

The scope and thrust of industrial promotion.

170. While the technical co-operation activities of UNIDO address specific industrial development problems, its promotional activities have a broader aim. Industrial promotion encompasses a wide range of activities designed to: (i) encourage countries to identify and articulate their needs; (ii) enhance the exchange of experience between countries; and (iii) introduce new ideas and approaches related to international co-operation. Industrial promotion attempts to harmonize the efforts of Governments and enterprises within the framework of development plans. At the international level, the emphasis is on fostering co-operation in the fields of technology and investment. Technical co-operation and industrial promotion play a complementary role. Industrial promotion comprises two programme instruments:

(i) Industrial investment promotion

Objective

The objectives of industrial investment promotion.

171. The objectives of this programme instrument are to: (a) assist sponsors of industrial investment projects in developing countries and foreign partners to engage in appropriate forms of co-operation; and (b) advise developing countries on ways and means of strengthening their investment opportunity identification, project preparation and promotion capabilities. This programme instrument thus contributes to the mobilization of financial resources for industrial development in developing countries.

Problems addressed

The difficulties associated with investment.

172. In some countries, the investment climate is not sufficiently attractive for foreign entrepreneurs to take advantage of the opportunities for co-operation with local project sponsors. Difficulties are also encountered in identifying suitable financial partners experienced in coping with the special problems of industrial ventures in developing countries. There is also a lack of well-prepared investment projects, be they for new industries or rehabilitation and expansion of existing facilities, supported by qualified local entrepreneurs or promoters capable of attracting foreign partners. Furthermore, small and medium-scale enterprises in industrialized countries are frequently reluctant to seek business co-operation opportunities in developing countries for want of comprehensive and reliable information on such opportunities, as well as on account of high transaction costs and risks associated with their direct involvement in international co-operation.

The problems confronting entrepreneurs.

173. Despite the success they often enjoy in domestic markets, not all entrepreneurs in developing countries have access to essential information, nor are they conversant with the problems of designing, manufacturing and marketing products that meet the standards required for foreign markets. They often need outside support in developing an appropriate export marketing strategy. In many cases, they have acquired their business experience as successful traders and may not possess the financial and engineering skills needed to set up and operate manufacturing enterprises. They have difficulty in selecting technology that reconciles the demands of the markets they are aiming at with the financial and human resources they have at their disposal.

Strategy for 1992-1997

A sharper regional focus.

174. The investment climate of developing countries seeking assistance of UNIDO will be analysed, with a view to providing appropriate advice on the requisite policy changes. Where chronic balance-of-payments problems constitute a major obstacle, the approach may include, if so requested by Governments, efforts to convert offset commitments by suppliers of capital equipment into direct equity investment, or to set up product buy-back, build-operate-transfer or other arrangements, as deemed appropriate and feasible. In all these activities, a sharper regional focus will be set.

The development of bankable projects and related training.

175. In order to overcome the shortage of "bankable" investment projects, the quality of investment projects identified will be improved by concentrating investment project promotion activities on specific industrial subsectors in a selected country so that potential partners can engage in technically specialized discussions, supported, as required, by UNIDO-recruited specialists in given subsectors. The calibre of local sponsors of investment projects will also be scrutinized more carefully. Emphasis will be given to institution-building and related training programmes in many least developed countries that lack capabilities for identifying investment opportunities and whose industrial promotion instruments are either rudimentary or non-existent.

Increased involvement of special-purpose donors.

176. Increased funding will be sought from special-purpose donors in order to expand the activities of UNIDO related to identifying and preparing investment projects in developing countries for implementation through business-oriented co-operation with foreign partners. These activities will also be undertaken on a subsectoral basis where the suppliers of technology in that subsector and project sponsors from several countries will be able to discuss the prospects of collaboration.

Special emphasis on marketing aspects.

177. Attention will also be paid to ensuring, in co-operation with such agencies as the International Trade Centre (ITC), that investment projects accepted for promotion take fully into account marketing aspects, in particular for proposals based on exports to new markets. In such cases, it is essential that the foreign partners have the marketing skills needed to complement the local sponsors' resources.

Closer linkage with investment promotion efforts.

178. Through close co-operation with the Investment Promotion Services, objective and up-to-date information will be available on the investment climate and business opportunities in developing countries. Greater efforts will be made to identify and contact small- and medium-scale enterprises in industrialized countries which are willing to consider business co-operation with project sponsors in developing countries. The network of focal points for investment project promotion in developing countries will be strengthened. These will be located in industry associations, chambers of commerce and industry, national investment project promotion centres and development finance institutions. Where appropriate, Investment Promotion Services in developing countries will support both inward and outward investment activities, so that they become instrumental in promoting industrial co-operation between developing countries, with emphasis on small- and medium-scale industries.

Closer co-operation with financial institutions.

179. Every endeavour will be made to engage suitable financial partners in industrial development by establishing closer contacts with national, regional and international development finance institutions and with bilateral development agencies along the lines of the joint business programme with the International Finance Corporation (IFC). UNIDO would thus be in a better position to suggest suitable financing packages at an early stage of project promotion.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

180. Major programme 300 Programme and Project Development: 351 Industrial Co-operation and Management Services; and 353 Project Review Committee Secretariat and Funds Administration.

181. Major programme 400 Industrial Promotion, Consultations and Technology: 421 Investment Programme for Africa; 422 Investment Programme for Asia and the Pacific; 423 Investment Programme for Latin America and the Caribbean; 424 Investment Programme for Arab Countries, Europe and Mediterranean Region; and 425 Office of the Director, Industrial Investment.

182. Major programme 500 Industrial Operations: 532 Institutional Infrastructure; and 541 Feasibility Studies.

183. Major programme 600 Common Programmes: 620 Industrial Development Decade for Africa.

(ii) Industrial technology promotion

Objective

The objective of industrial technology promotion.

184. The objectives of this subprogramme are, through a variety of promotional and information services, to (a) increase the flow of industrial and technological information to developing countries; and (b) strengthen the capacity of developing countries to select, acquire, adapt and absorb industrial technology and to develop and adapt their own industrial technology. It supplements country- and region-specific technical co-operation activities through flexible assistance rendered to a broad range of actors and institutions involved in industrial and technological development.

Problems addressed

Constraints upon technological development efforts and the critical systemic elements.

185. The technological development efforts of most developing countries in general have been very limited. Their research and development efforts, modest as they are, have not resulted in the development and industrial application of technologies suited to their needs. Many developing countries still lack the critical elements of a technological system essential to industrial development. These critical elements include: (a) technology policy and its integration with industrial development policies and plans; (b) access to and acquisition of technology, including the negotiation and management of technology transfer contracts; (c) development and diffusion of endogenous technology, including the strengthening of domestic technological infrastructure and its links to industrial operations; and (d) development of technological information support systems and related extension services, encompassing mechanisms and capabilities for monitoring emerging technologies and their implications for national development strategies.

Strategy for 1992-1997

Technology policy.

186. Promotional work on technology policy will be carried out through national and regional workshops on the implications of technological change and new technologies for industrial and technological development policies. These workshops will draw on the technological studies and research of UNIDO, and due attention will be paid to country characteristics in terms of the level of industrialization and technological development.

Technology acquisition.

187. With regard to technology acquisition, advisory and information services will be provided as an integral part of investment promotion services at the enterprise level. Attention will be paid to the appropriateness of specific technologies in relation to local management capabilities, product-market characteristics, other competing technologies, and environmental and energy considerations. Such services will also assess the need for training local counterparts and developing appropriate institutional capabilities to manage technology acquisition.

Advanced technologies and close links with the scientific and technological communities.

188. With respect to advanced technologies, emphasis will be placed on formulating policy, building up research and development capabilities and linking research to industrial applications as well as promoting closer linkages between manufacturers and users. As emphasized in General Conference resolution GC.3/Res.21, para. 4(b), measures will be taken to improve regional co-operation in the priority area of development and transfer of technology, especially through the establishment and improvement in the developing countries of national, scientific and technological development institutions oriented towards industrialization. Subregional and regional centres or networks will be promoted in such areas as microelectronics, marine industrial technology, new materials, fine chemicals and fine mechanics. Contacts will be intensified with the international scientific and technological communities, as well as United Nations agencies, such as ILO, UNESCO, UNCSTD, FAO, UNEP and UNCTAD. Promotion of national and regional efforts will focus on research co-operation, particularly on the industrial application of research results and the adaptation of advanced manufacturing systems to render them suitable for developing countries.

Conventional technologies.

189. Sectorally specialized workshops will be used to promote appropriate conventional technologies. These technologies will also be incorporated into UNIDO technical co-operation activities aimed at rural development and small-scale industries. Particular attention will be paid to the development and application of new and renewable sources of energy, and energy-saving, environment-friendly and low-waste technologies.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

190. Major programme 400 Industrial Promotion, Consultations and Technology: 442 Technology Policy, Acquisition and Negotiation; 443 Basic Technologies; 452 Informatics; 453 Biotechnology and Genetic Engineering; and 454 New Technologies.

191. Major programme 500 Industrial Operations: 532 Institutional Infrastructure; and 533 Industrial Management and Rehabilitation.

4. Information services

Objective

The objectives of the information services.

192. This programme instrument will collect, monitor, analyse and disseminate: (a) industrial statistics; (b) industrial investment information; and (c) industrial technological information. This instrument not only supports technical co-operation project development by providing relevant statistical and technical data, but also contributes substantive expertise on information technologies. Together with studies and research, this instrument also supports industrial promotion activities at the national, regional and interregional levels.

Problems addressed

The need to strengthen basic statistical machinery ...

193. Industrial statistics are essential to industrial policy evaluation and planning in developing countries. Many developing countries, particularly the least developed countries, urgently need to strengthen their own basic statistical machinery and capabilities with cost-effective techniques for data processing and analysis.

... and technological information services.

194. Despite the rapid diffusion and communication technologies, utilization of technological information is disproportionately greater in technologically advanced countries. At the international level, markets for industrial and technological information required for investment and technological decision-making are imperfect, with the result that developing countries, which have limited resources, encounter difficulty in paying the high entry costs. Information services need to be improved, particularly in as complex a field as industry. This is particularly relevant to the work of UNIDO which has to act as a global clearing house as well as assist developing countries strengthen their information absorption capabilities.

Strategy for 1992-1997

Expansion of statistical operations.

195. In addition to issuing statistical publications such as the Handbook of Industrial Statistics, UNIDO will continue its endeavours to improve and enlarge its statistical data base. These endeavours are also instrumental to developing technical co-operation programmes and projects aimed at strengthening the developing countries' capabilities in the domain of industrial statistics and related policy information systems. Close co-operation will be maintained with the United Nations Statistical Office, and efforts will be directed towards developing more refined statistics relevant to industrial planning and policy: in particular, statistics on industrial investment and finance, production capacities and productivity, and other parameters needed to assess the changes in comparative advantages of developing countries.

Improved investment information.

196. The data base of the UNIDO Investment Promotion Resources Information System (INPRIS) will be improved, particularly with regard to information on potential investment partners. This information involves an element of confidentiality, hence it will be disseminated only to those investors and development institutions that are considered to be serious partners in the investment process.

Technological information.

197. Efforts to support the transfer of technology will be based on two established channels within UNIDO: the Technological Information Exchange System (TIES) and the Industrial and Technological Information Bank (INTIB). TIES will strengthen the position of developing countries in their negotiations with technology suppliers by providing information on technology contracts which may include the viewpoints of both contracting parties. The activities of INTIB will be substantially reoriented. Its operations will be based on a network of national focal points; relevant data bases will be developed and promoted, and on-line communication with information sources and users will be established wherever possible. INTIB will also assist information specialists from developing countries in using modern information-handling techniques and gaining direct access to computerized sources of information. Links will be established between national focal points and networks. The specific information needs of industrial enterprises related to energy conservation and clean technologies will be addressed. Information on the impact of new technologies on the 20 industrial subsectors covered by INTIB, as well as on microelectronics, new materials, genetic engineering and biotechnology, will be compiled in the form of subsectoral dossiers and awareness bulletins.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

198. Major programme 300 Programme and Project Development: 343 Industrial Statistics and Sectoral Surveys.

199. Major programme 400 Industrial Promotion, Consultations and Technology: 425 Office of the Director, Industrial Investment; 441 Industrial and Technological Information; and 451 Industrial Technology Monitors.

5. Technical co-operation

Two broad subcategories of technical co-operation.

200. This major programme instrument covers a great diversity of activities related to the development and implementation of technical co-operation projects carried out at the request of developing countries. In the presentation below, this instrument is divided into two broad subcategories: (i) programme development and management; and (ii) project operations.

(i) Programme development and management

Objective

The primary objectives.

201. The objectives are, in close consultation with requesting developing countries: (a) to formulate policies and strategies for the development of technical co-operation activities in the field of industry; (b) to elaborate programmes of technical co-operation activities at the country, subregional, regional and interregional, as well as subsectoral levels; (c) to formulate and appraise projects to be carried out within those programmes; and (d) to obtain the financial resources necessary to implement these projects.

Problems addressed

Requests for co-operation cover a wide range of problem areas.

202. At the macro-economic level, the areas in which assistance is requested include the preparation of national plans, development of sectoral programmes and elaboration of appropriate industrial development policies and strategies. At the micro-economic level, direct assistance is sought in solving specific industrial production problems, including: local industrial application of technologies or processes; selection, installation, operation and maintenance and repair of equipment; organization of production facilities; conservation of energy and use of new and renewable sources of energy; monitoring the impact of industry on the environment and human health and safety; training of industrial manpower; organization and management of enterprises; and preparation of pre-investment studies for the establishment of new production facilities or rehabilitation or expansion of existing plants. Assistance is also requested for the industry sector as a whole in such areas as the establishment of an appropriate industrial institutional infrastructure, particularly to support: small- and medium-scale industries; introduction of industrial standards and quality control systems; development of human resources, especially management and entrepreneurial skills; development, transfer and application of technology; and mobilization of financial resources for industrial investment.

The need for careful project formulation and appraisal.

203. In developing technical co-operation programmes, including their design and appraisal, it is necessary to have comprehensive and current information on general economic and social conditions, and to have a clear view of the development plans, policies and objectives of Governments, particularly for the industry sector. In addition, it is important to know about other bilateral and multilateral development co-operation activities in order to avoid duplication of efforts. Access to knowledge of the wide range of industrial branches and technologies is essential in order to ensure that problems are correctly analysed and technical co-operation proposals respond to actual requirements. In the design of programmes and projects, objectives, as well as planned outputs and activities for their achievement, must be realistic and clearly stated and an accurate assessment made of the resources required. This calls for careful appraisal of project proposals to ensure that they conform to programme criteria, policy guidelines and established design standards so as to ensure relevance, feasibility and potential effectiveness in solving the problems identified. In addition, the appraisal along these lines will permit the analysis of the extent to which programmes and projects respond to policy objectives and guidelines on specific subjects such as environment. This will also permit programme management to identify the most effective means of translating policy objectives into operational activities.

Mobilization and management of various sources of project funding.

204. Securing the financial resources needed to implement technical co-operation programmes requires a carefully co-ordinated approach to diverse multilateral, bilateral, national and non-governmental sources of funding. The different priorities, timetables and currencies make this task all the more complex. In the particular context of the programme approach, UNIDO will have to ensure a great degree of flexibility in the utilization of contributions from those diverse sources.

Strategy for 1992-1997

Priority themes and co-ordination of project development efforts, particularly in Africa.

205. In its technical co-operation activities, UNIDO will give particular attention to the priority themes identified in chapter I, such as industrial rehabilitation, human resource development, small- and medium-scale industry development, development and transfer of technology, environmental protection and energy. It is envisaged that the issues of integration of women in development and ECDC will also play an important role. Other themes of significance are the second IDDA, the priorities set in the African Memorandum on Industrial Development in Africa, and the areas identified by the Conference of African Ministers of Industry at their ninth meeting. Within the framework of the programme for the second IDDA, packages of investment and technical assistance projects will be developed for presentation to donors and investors. Particular emphasis is placed on the mobilization of financial and technical assistance, with the limited budgetary resources being used as seed money for further projects and programmes, as well as on the effective implementation of the strategic management concept and the integrated programme approach on a broad scale.

Full participation in UNDP country and regional programming and maintenance of the policy dialogue.

206. The medium-term plan period covers the UNDP fifth programming cycle and the first year of the sixth cycle. It is expected that the proportion of UNDP resources allocated to the industrial sector will increase, reflecting the priority developing countries attach to the sector. This process is by no means automatic, but involves the complex mechanism of UNDP country programme development. Particular attention will therefore be devoted to the participation of UNIDO in all activities related to the UNDP country and regional programming processes, including mid-term reviews and preparation of new programmes. Policy dialogue will continue with developing countries, through such means as consultative group meetings, UNDP round-table conferences, and national assessment of technical co-operation needs. For this policy dialogue work plans will have to be drawn up, in consultation with Governments, UNDP, the World Bank and other international organizations. This will be supported by analytical studies and operational inputs from various parts of the Organization. Contributions will also be made by UNIDO field staff (UNIDO Country Directors, Junior Professional Officers and project experts) and the joint industry divisions at the regional commissions.

The need to diversify sources of funding.

207. Efforts will continue to increase the flow of financial resources and diversify the sources of finance available to UNIDO for supporting technical co-operation programmes and projects. This diversification is all the more necessary because of the changes expected in the tripartite relationship between the Governments, UNDP and the executing agencies. Even though the full impact of these changes is not likely to be felt until the latter half of the UNDP fifth programming cycle, it is necessary to initiate countervailing measures at this juncture. By reorienting its activities so as to concentrate more on the provision of technical advice and expertise and less on the administrative and operational support to projects, UNIDO hopes to compensate for any loss of income that the above-mentioned changes might entail. In any event, the total flow of United Nations resources devoted to industry will still be insufficient to meet the growing requirements of developing countries; thus, continued innovative efforts are required to secure further funds. A basic strategy during the period will be to direct UNIDO-managed funds towards projects related to the priority themes, using a programmatic approach wherever practical. To facilitate the planning and management of resources, contributors to these various funds will be asked to consider pledging support for programmes, taking into account the priority areas, within which individual projects will be carried out, rather than negotiating contributions on a project-by-project basis. This should facilitate financing arrangements and accelerate the process of project approval.

Increased use of various trust funds and other forms of co-financing.

208. Self-financing trust funds and third-party financed trust funds are also expected to increase. The services provided by UNIDO under these trust-fund schemes cover direct assistance in technological, managerial and enterprise development aspects that are normally beyond the scope of traditional technical co-operation projects. They are expected to include to an increasing degree pre-investment studies, supervision and inspection services during the construction phase, managerial support and manpower development services in the start-up phase, rehabilitation, modernization and diversification programmes for ailing industries and promotion of enterprise-to-enterprise co-operation. The overall management of these different sources of funding, including financial support from national and international non-governmental organizations, and their coherent utilization will be an integral element of this programme.

Co-operation with development banks and finance institutions.

209. As stated earlier, it is essential for UNIDO to enhance its co-operation with industrial development banks and finance institutions so as to be able to manage more effectively than hitherto the interface between its own technical co-operation instruments and those of the development finance institutions. To this end, relations with multilateral development financing institutions such as the World Bank, the Asian Development Bank, the Inter-American Development Bank and the African Development Bank will be developed further so as to achieve an increased involvement of UNIDO in technical co-operation activities financed by those organizations.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

210. Major programme 300 Programme and Project Development: 321 Field Representation and Co-ordination; 322 Project Appraisal; 323 Programme Development Support; 324 Environment Co-ordination; 331 Africa; 332 Arab Countries; 333 Asia and the Pacific; 334 Europe, Mediterranean, Global and Interregional; 335 Latin America and the Caribbean; 336 Economic Co-operation among Developing Countries; 337 Office of the Director, Area Programmes; 351 Industrial Co-operation and Management Services; 352 Integration of Women in Industrial Development; and 353 Project Review Committee Secretariat and Funds Administration.

211. Major programme 600 Common Programmes: 620 Industrial Development Decade for Africa.

(ii) Project operations

Objective

Primary objectives.

212. The objective of this instrument is to assist developing countries in implementing the specific projects established within the framework of the technical co-operation programmes described above, in a timely, efficient and effective manner. Particular consideration is given to maximizing the contribution of individual projects to the recipient countries' policies, programmes and capabilities for industrial development, especially in terms of human resource development and transfer and development of technology.

Problems addressed

The scope of work ranges from identification of specific technical inputs to evaluation of project results.

213. The problems addressed in the implementation phase include: (a) identification of the specific technical inputs required to undertake the proposed project activities and the identification of the most suitable sources for such inputs; (b) arrangements for their timely and economical delivery; and (c) the substantive monitoring of project progress and evaluation of project results to ensure that the inputs are effectively used to complete the planned activities and that the activities carried out produce the outputs targeted and thereby achieve the objectives.

The need for a broad range of subsector-specific and managerial skills.

214. To deal with such problems, backstopping officers require a thorough understanding of the substantive questions concerning particular projects. They must be equipped with relevant expertise for handling technically specialized problems of specific industrial branches and institutions in the country or region in which projects are being implemented. It is also necessary to have an up-to-date knowledge of the potential sources of the expertise or consultancy services, equipment and training services required for given projects so that the most appropriate inputs may be provided in a timely manner. Finally, it is essential to have the means to monitor carefully the progress of project implementation to ensure that services are provided on schedule, within the resources allocated, and achieve the desired results.

... and for a multidisciplinary approach to complex problems.

215. A growing number of requests for assistance relates to highly specialized fields which require apposite inputs in terms of expert qualifications, equipment quality and training arrangements for project counterpart staff. The increased complexity of many large-scale projects calls for greater efforts to ensure that interdependent activities proceed on schedule. The multi-disciplinary nature of many projects makes co-operation and co-ordination of activities essential, not only within UNIDO but also between UNIDO and other United Nations agencies and governmental and non-governmental organizations involved in development co-operation activities.

Strategy for 1992-1997

Improved recruitment of expert resources to ensure timely delivery ...

216. In view of the trend towards greater reliance upon national project directors and national project staff, supplemented by short-term assignments of highly specialized international experts, measures will be taken to ensure that experts in the latter category are recruited on time and effectively engaged in their assignments immediately upon arrival at the project site. This requires careful scheduling of project activities and effective monitoring to ensure that any problems which may lead to delays are identified at an early stage and resolved quickly. The substantive responsibility for technical project monitoring and management has fallen to an increasing degree on substantive backstopping officers at Headquarters, as opposed to chief technical advisers in the field recruited for the full duration of the project. It is essential that adequate resources be made available for these backstopping activities. The increasing number of projects under negotiation and implementation, together with the diversity of technological specialties involved, will require greater staff strength also in terms of subsector-specific technological expertise.

... and greater catchment of skills in both developed and developing countries.

217. The roster system for technical co-operation personnel will be expanded with a view to accommodating the need for specialized expertise in increasingly sophisticated technological and managerial disciplines. At the same time, procedures will be introduced to increase the efficiency of the recruitment and organization of multidisciplinary teams required when applying the thematic programme approach. The network of different recruitment services will be strengthened, with attention being paid to expertise available in specialized technical institutions in developing countries. Electronic data processing and office automation techniques will be used to enhance the efficiency of the recruitment process as well as the procurement of contract services and equipment.

Greater use of in-house expertise.

218. In view of the overall resource limitations of the Organization, however, the involvement of officers responsible for project implementation in technical aspects of project development and formulation activities is likely to continue. The economic, technological and other disciplinary expertise available within the Organization will have to be shared effectively with its other important programme activities such as specialized technical studies and promotional activities. With these constraints taken into consideration, the strategy for the medium-term plan period with respect to technical co-operation project operations will be two-fold: one will be to intensify the co-ordinative role of this particular programme instrument in securing the specific technical expertise required for individual project formulation and implementation; the other will be the adoption of an improved management information system involving relevant computer applications. The co-ordinative task will become still more important with the adoption of the programme approach which will stimulate the development of more complex programmes and project concepts than in the past so as to be able to simultaneously tackle problems at multiple levels of the industrial structure. It will make it possible to incorporate different types of co-operation instruments into given projects such as policy analysis, information services, specialized training programmes and promotional activities, in addition to the more conventional types of inputs (experts, equipment and fellowships).

Greater use of short-term senior technical advisers to meet highly specialized backstopping requirements.

219. In securing the specialized expertise to cope with ever more diverse technical requirements, increased use will be made of short-term senior technical advisers, each of whom will be recruited for a limited duration to advise Headquarters staff on highly specialized technical aspects of project operations where in-house expertise is lacking. It would be of great help to have a network of such technical advisers instituted within the framework of the Organization's project backstopping and funding systems.

Human resource development: an important facet of every technical assistance project.

220. Given the importance of human resource development to every technical assistance project, continued efforts will be made to extend the network of institutions prepared to offer training to UNIDO fellows from developing countries and make greater use of "centres of excellence" in developing countries; new training techniques and methodologies will be explored; training will be undertaken for selected target groups that are in a position to multiply the impact of UNIDO training activities (i.e. training of trainers).

Co-operation within the Organization and without.

221. Co-operation between training officers and substantive officers with specialized knowledge of specific industrial branches will be intensified, and greater use will be made of the training functions of experts recruited for technical co-operation projects. In designing the training components of specific projects, an appropriate balance will be struck between long-term requirements and immediate requirements in human resource development. Co-operation with other organizations of the United Nations system, especially the ILO, FAO, UNESCO and the World Bank, will be intensified. The experience of non-governmental organizations, industrial enterprises and other institutions involved in human resource development for industry will be drawn upon.

New techniques for implementing technical co-operation will be introduced with appropriate support measures.

222. New techniques for implementing technical co-operation activities will be introduced, in order to enhance their cost-effectiveness and their contribution to the solution of problems faced by developing countries in their industrialization. In particular industrial rehabilitation calls for close monitoring, both in the field and at Headquarters, of developments after technical assistance has been rendered. The development of small- and medium-scale industry will demand a more intensified approach to the information and policy aspects of such institutional infrastructure as marketing co-operatives, sub-contracting exchanges and hire-purchase programmes for equipment. In this context, greater attention will also be paid to the policies governing the application of advanced information technologies in the developing countries at different levels of industrial and technological development. In so doing, further efforts will be made to upgrade the in-house capabilities of UNIDO in terms of information management which would be instrumental to both developing and implementing information-intensive co-operation projects. It will also be necessary to augment internal expertise either through recruitment or appropriate staff training so as to provide the skills needed for the integrated programme. Similarly, the availability of outside expertise is essential to the effectiveness of the programme. In order to secure expertise of the reliability and quality required, it may well prove necessary to develop new types of expert and consultancy company rosters, contract procedures and scales of remuneration.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

223. Major programme 500 Industrial Operations: 521 Agro-based Industries; 522 Chemical Industries; 523 Metallurgical Industries; 524 Engineering Industries; 531 Industrial Strategies and Policies; 532 Institutional Infrastructure; 533 Industrial Management and Rehabilitation; 541 Feasibility Studies; 542 Industrial Human Resource Development; and 543 Project Personnel Recruitment and Administrative Service.

6. Inter-agency co-ordination 13/

Objective

Primary objective.

224. In the light of its constitutional mandate, UNIDO is required to play the central co-ordinating role in the field of industrial development within the United Nations system. The objective of this instrument is to: (a) ensure consistency throughout the United Nations system of approaches to development co-operation in support of industry; and (b) to eliminate duplication and maximize complementarity of effort by different agencies in the system.

Problems addressed

Inter-sectoral programmes call for careful co-ordination.

225. The demarcation of mandates of United Nations agencies along sectoral lines offers scope for joint efforts to tackle problems associated with important inter-sectoral programmes such as those in support of agro-industries. Similar scope for co-operation is offered with agencies mandated to deal with such cross-sectoral concerns as environment, labour, trade, science and technology. A third avenue of co-operation is offered by the regional economic commissions in the development and implementation of regional programmes and projects. These three dimensions of co-operation call for careful management and co-ordination.

Inter-agency co-ordination in country programming.

226. In technical co-operation activities, it is generally accepted that co-ordination is better effected with respect to specific country programmes and projects at the field level. At the same time, it is also increasingly recognized that there is need for a stronger sectoral, intersectoral and analytical country programming approach which, in turn, should permit full utilization of the knowledge and experience of specialized agencies. Well co-ordinated country programming could help direct an increased flow of resources for both technical co-operation and investment to viable projects for economic and industrial recovery.

Strategy for 1992-1997

Participation in inter-agency task forces ...

227. UNIDO will concentrate on participating in inter-agency co-ordination at the level of specialized task forces and associated working groups that deal with substantive technical issues in which the industrial sector plays an important role. These include rural development, human resource development, economic adjustment and restructuring, environment, energy, science and technology and the integration of women. The thematic approach proposed for the medium-term plan is intended to activate, rather than obviate, co-ordinated inter-agency efforts, to improve insight into the major problems to be tackled through a multidisciplinary approach and by actively sharing experience and skills among agencies. The contribution of UNIDO to such "thematic" inter-agency consultations will draw extensively on the results of its own studies and research and the System of Consultations. Specific attention will be given to strengthening co-ordination with those governmental and intergovernmental organizations whose work is related to that of UNIDO. At the same time, links will be strengthened with the regional commissions as well as with other United Nations organizations and specialized agencies through, inter alia, the liaison offices in New York and Geneva and through the mechanism of inter-agency consultations.

... and joint country programming exercises and other crucial areas.

228. UNIDO will actively respond to the call for increased analytical work at the country level. Country, sector and policy studies will make timelier contributions to the joint country programming exercises with UNDP and other relevant agencies. Due attention will be paid to the close linkages between industry and such sectors as trade, finance, education, shelter, health and agriculture. Closer co-operation with the World Bank and regional development banks will be explored, with a view to harmonizing the technical co-operation inputs of UNIDO with their capital assistance programmes. Efforts will be maintained to harmonize project cycle procedures and documentation between the United Nations system and bilateral donors, with a view to enhancing the catalytic role of the former in orienting the latter's initiatives towards agreed priority problems in the recipient developing countries.

Programmes and subprogrammes involved

The substantive programmes and subprogrammes involved.

229. Major programme 200 General Management: 211 Office of the Director-General; 215 Evaluation; and 216 Strategy, Policy and Planning.

230. Major programme 300 Programme and Project Development: 310 Office of the Deputy Director-General; 321 Field Representation and Co-ordination; 324 Environment Co-ordination; 336 Economic Co-operation among Developing Countries; 337 Office of the Director, Area Programmes; and 352 Integration of Women in Industrial Development.

231. Major programme 400 Industrial Promotion, Consultations and Technology: 410 Office of the Deputy Director-General.

232. Major programme 500 Industrial Operations: 525 Office of the Director, Industrial Operations Technology; 534 Office of the Director, Industrial Institutions and Services; and 544 Office of the Director, Industrial Operations Support.

233. Major programme 700 External Relations, Public Information, Language and Documentation Services: 721 External Liaison and Protocol; 723 New York Liaison Office; and 724 Geneva Liaison Office.

CHAPTER III. POLICY MANAGEMENT AND PROGRAMME SUPPORT

Policy management

Enhancing the effectiveness and efficiency of UNIDO as a whole.

234. Within the context of the overall objective of promoting and accelerating industrial development in the developing countries, as well as promoting industrial co-operation on global, regional, national and sectoral levels, policy management provides effective strategic guidance to the Organization and contributes to strengthening the activities of UNIDO through improved operational and financial planning. With the assistance of the Executive Management Committee, the Programme Committee and Operational Task Force, as well as the support of the Strategy, Policy and Planning Office, it oversees the functioning of UNIDO in its entirety and develops and implements ways and means of improving organizational efficiency and effectiveness in accordance with the goals and principles defined in the Constitution of UNIDO. Specifically, the Strategy, Policy and Planning Office will strengthen the linkage between executive decision-making and operational activities by developing policy guidelines and methods for improved resource allocation in accordance with legislative mandates and the strategic objectives of the Organization. Continuing efforts will be made to secure the active support of Member States, governmental and intergovernmental organizations for those endeavours and the activities of UNIDO through dialogue with Permanent Missions and direct contacts with the authorities and organizations concerned.

The important role of evaluation.

235. Particular attention will be devoted to improving the impact, effectiveness and efficiency of technical co-operation projects and programmes and recommending appropriate courses of action for improvement. An essential part of this evaluation activity is directed towards ensuring greater cost-effectiveness and improved quality of the co-operation services delivered. In the medium-term plan period, evaluation of the headquarters' programmes will be undertaken according to a systematic and long-term schedule, giving priority to those programmes which reflect the thematic concepts shown in chapter I. The findings of these evaluations will be used to provide direction to those programmes. They will also constitute inputs into preparing the Organization's biennial programme and related budget allocations, as well as to monitoring implementation.

Programme support

Essential administrative and operational support in ...

236. In order to provide the Organization with the essential administrative and operational support, a series of functions are carried out related to personnel, financial, general, electronic data-processing and language and documentation services. These together with legal, internal audit and public information functions constitute the basic back-up to the activities of the Organization.

... personnel administration ...

237. In the personnel sector, a coherent personnel policy will be developed and applied. Other activities relate to recruiting and administering the staff of the UNIDO Secretariat and local project staff, ensuring full utilization and development of the Organization's human resources, maintaining sound staff-management relations and providing social security services. Every attempt will be made to reduce the average recruitment time for Headquarters staff in the Professional and higher categories from seven to five months (calculated from the date on which the vacancy announcement is issued). As a specialized agency within the United Nations system, UNIDO will develop its own set of personnel policies, procedures and practices in line with the new Staff Regulations and Rules, while intensifying its efforts to achieve broader and equitable geographic representation and greater participation of women at all levels. The period 1992-1997 will be devoted to consolidating and developing further the system of human resource planning as an important tool for the overall management of the Organization. Particular emphasis will be given to improving the range and quality of staff training to meet the changing needs of the Organization.

... financial management ...

238. Managing the financial resources of the Organization includes the financial management of technical co-operation, involving the certification of project obligations and expenditures, review of project budgets and issuance of programme allotments, as well as the maintenance of a financial reporting system for technical co-operation activities. It also entails contributing to the preparation and submission of biennial programme budgets to the policy-making organs of UNIDO; planning for expenditure on activities financed from all sources; formulating and applying the financial policies of UNIDO in response to action taken by policy-making organs; receiving and ensuring safe custody of and disbursing all financial resources made available to the Organization; and accounting for and reporting to the appropriate bodies on the use made of such resources. During the medium-term plan period, financial policies and procedures will be continuously reviewed to facilitate the

integration of budgeting and accounting systems in order to achieve more cost-efficient processing and to improve financial reporting. Systems of internal control will be strengthened. Further measures will be developed to improve the management of extrabudgetary funds. At the same time, the new programming, planning and budgeting processes will come into effect, resulting in a more transparent linkage between the objectives and outputs of the Organization and the budgetary resources allocated to it. As a result, Member States will be able to assess the impact of resource utilization, while programme managers will be more responsible and accountable for resources and results achieved.

... legal matters ...

239. Legal services, advice and assistance are provided centrally on all matters relating to the Organization. These activities generally are continuing in nature and consist of legal support services for the organs and programmes of the Organization with a view to promoting and developing the rule of law in the activities of the Organization and defending its legal interests, positions and rights. Legal services are provided to the Director-General, the presiding officers of the policy-making organs, and to units of the Secretariat. Legal services include preparation and negotiation of treaties and international agreements to be concluded by UNIDO and the depositary functions of the Director-General. General legal services and advice are furnished on relations of the Organization with other legal entities or third parties, including contractual relations with private sector firms and with staff and other employees, questions of liability, the handling of claims and internal administrative law questions. The legal services include supporting services with regard to the legal aspects of the Organization's substantive programmes for industrial development.

... internal auditing ...

240. Periodic independent audits and reviews are undertaken of the financial and operational activities of UNIDO, including the audit and review of control mechanisms, so as to ensure the smooth and timely operation of such activities and improve their effectiveness. These activities shall continue throughout the medium-term plan period, extending their scope to include the audit and review of an increased number of field activities.

... general services ...

241. General support services are provided not only to UNIDO but also in certain areas to all organizations located at the Vienna International Centre (VIC). These encompass contractual services and purchasing technical equipment and supplies for technical co-operation projects and the common services managed by UNIDO in the VIC; supervising and controlling commercial operations such as catering services and garage operations; managing and administering the maintenance, repair and operation of the buildings of the VIC complex, grounds and ancillary installations, including related contractual services; managing the official travel, transportation, shipment and insurance services; managing the inventory and control of all UNOV/UNIDO non-expendable and expendable property; establishing standards and administering issuance, storage, maintenance and repair of office furnishings, equipment and stationery/office supplies; providing records management and archival services; and administering the registry systems. During the medium-term plan period, continued efforts will be made to modernize, rationalize and streamline work procedures and routines, to improve planning, financial and other control systems, and to provide data and statistics necessary for prudent management. This will require increased use of computer-aided techniques for management information systems as well as further training of staff. It is expected that, as occurs in the life of all buildings, the cost of maintaining and repairing the buildings of the VIC complex and related installations will show a significant increase compared with the early years of operation. Notwithstanding this, every effort will be made to minimize the unavoidable net increase by seeking further energy and operating savings through the application of modern technology and streamlined work practices.

... languages and documentation ...

242. Other aspects of the efficiency of the Organization are governed by the provision of translation, editorial control and documentation services for meetings, publications, reports, studies, circulars, press releases and official correspondence. During the medium-term plan period, the objective will be to increase the productivity of professional translators and editors; first by improving the quality of texts submitted for editing and translation and secondly by introducing a number of new technologies, ranging possibly from multilingual word processing and machine-assisted translation with on-line terminology resources to digital image processing using optical-disk storage, machine translation and voice recognition. The introduction of new types of computer-aided composition equipment might offer comparable savings in the printing sector.

... public information ...

243. Information activities will be carried out to generate public support for and interest in UNIDO objectives, priorities and actions. These activities will range from increased contacts with the print and electronic media - to encourage them to devote greater attention to the work of UNIDO in the context of key industrial development issues - to producing and distributing basic materials such as media releases, video and print features, radio programmes, photos, exhibits and publications including UNIDO Update. These materials are aimed at translating the concepts and specific initiatives of UNIDO into clear and compelling terms for government agencies, non-governmental organizations, educational institutions, the media and the general public.

... National Committees for UNIDO ...

244. Public information activities will also be supplemented by the National Committees for UNIDO. At present, of 151 Member States of UNIDO only 63 have National Committees. The objective is to assist Member States in reactivating or establishing National Committees. Once functional, National Committees can be an important instrument at the national level for enhancing the image of UNIDO and forming the basic infrastructure. They provide information services on UNIDO and its activities at the national level, including small reference libraries of UNIDO publications and other documentation, assist in disseminating those publications, organize UNIDO photographic displays and film shows, and act as liaison offices for the mass media and the world of learning.

... and electronic data processing and office automation.

245. Electronic data processing and office automation will contribute to increasing the effectiveness and efficiency in many fields of UNIDO operations. A central reference point is provided for the implementation and processing of well co-ordinated computer applications and for assistance in the use of specialized computer technology to support office activities. In close co-operation with the organizational units concerned, emphasis will be placed on analysing, designing, developing, maintaining and running computer applications that can be broken down into three basic groups: (i) administrative; (ii) management information for planning and decision making; and (iii) bibliographic, especially intended to disseminate industrial information. Attention will also be given to providing leadership, training and support in such areas as word processing, records management and office communication. Steps will be taken to administer, support and operate effectively the associated equipment, software and network. The objective of the above is to streamline procedures, automate processes and tasks and so ensure increased organizational efficiency. Thus, an attempt will be made to link all major information systems so as to support the integration of related tasks throughout the Organization, thereby providing a holistic response over the complete project cycle.

NOTES

1/ The figure of 3.5 per cent per year cited in the medium-term plan for 1990-1995 was a synopsis of the projections which have so far been made by various United Nations agencies and debated at the Inter-Agency Technical Working Group on Long-Term Development Objectives.

2/ See also resolutions GC.2/Res.4 and GC.3/Res.8.

3/ See also resolutions GC.2/Res.4 and GC.3/Res.7.

4/5/ See also decision GC.2/Dec.13(f) which refers to activities and target areas contained in document IDB.3/16 and elaborated upon by the open-ended working group on Article 2 (c), as well as resolution GC.3/Res.3.

6/ See also decision GC.2/Dec.11; also see resolution 3 of the Fourth General Conference of UNIDO (ID/CONF.5/46), as well as resolution GC.3/Res.16.

7/ See also resolutions GC.2/Res.10 and 11, and GC.3/Res.5, 6 and 19.

8/ See also resolutions GC.2/Res.1 and GC.3/Res.9.

9/ See especially the UNIDO Global Report: Industry and Development 1989/90 (ID/364) chap. III; also the case studies and synthesis report prepared for the Expert Group Meeting on Prospects for Industrialization Policies in Developing Countries taking into Account the Impact of Developments in the Field of New and High Technologies, Vienna, 4-7 April 1989 (PPD.118(SPEC.)).

10/ See also decision GC.2/Dec.16 and resolution GC.3/Res.15.

11/ See also resolutions GC.2/Res.9 and GC.3/Res.11 (on least developed countries), GC.2/Res.2, 3 and 5, GC.3/Res.10 and decision GC.3/Dec.14 (on Africa), PBC conclusion 1989/12 and resolution GC.3/Res.18 (on Special Programme for the Industrial Development of Asia and the Pacific) and PBC conclusion 1989/16 and resolution GC.3/Res.17 (on Regional Co-operation Programme for the Industrial Recovery of Latin America and the Caribbean).

12/ See also the report of the ninth meeting of the Conference of African Ministers of Industry (CAMI.9/22/Rev.1)

13/ See also decisions GC.2/Dec.15 and GC.3/Dec.16.